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# BUSINESS WEEK

A McGRAW-HILL PUBLICATION

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FIFTY CENTS

SEPT. 19, 1959

Joseph C. Wilson of Haloid Xerox begins to invade the market for office copying machines. (New Products)

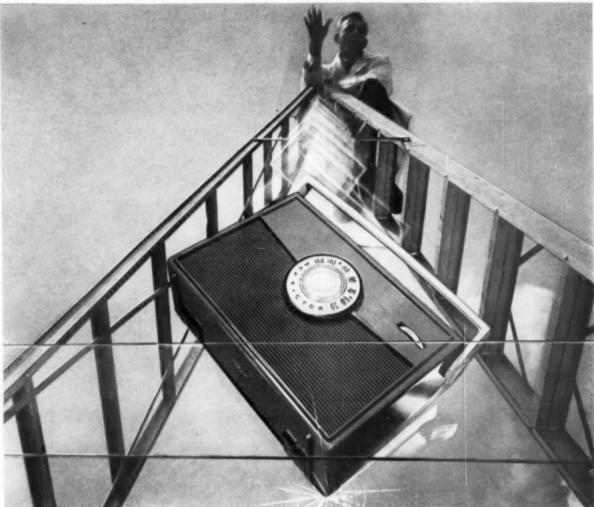


Photo courtest Badus Corporation of America,

### Secret of a Smashing Success

**Dropped 10 feet**—this polystyrene radio case bounced, clattered, *but did not break*. It did not chip or crack—did not show a single mark of its high dive. Dramatic evidence, wouldn't you say, of the remarkable strength being built into modern plastics.

How to make tougher polystyrene—the material used in most radio cases — was long a priority project with all its manufacturers. Concentrated research and development finally solved the problem. The secret of success for many producers: combining the product with PLIOFLEX rubber.

**Plioflex,** with its unusually light color, high uniformity and particular physical properties, was selected over many other possible modifying materials. Experience has proved it to be the best choice to meet the exacting demands of the plastics industry.

Making more durable, more salable radio cases is but one of the many uses for the many types of PLIOFLEX. How can you use PLIOFLEX to advantage, either alone or in combination with other materials? Find out by writing to Goodyear, Chemical Division, Dept. I-9415, Akron 16, Ohio.





Pliofex -T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

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7 . 1	_			9	1-4/
V. N-					130
					120
JEMAMJJASONDJEMAMJJASO			1959		
	1953-55 Average	Year Ago	Month Ago	Week Ago	§ Lat
JSINESS WEEK INDEX (chart)	133.3	132.9	151.6	r 149.8	*148
DDUCTION					
eel ingot (thous, of tons)	2,032	1,771	321	r327	3
otomobiles	125,553	24,072	72,603	r17,261	22,7
gineering const. awards (Eng. News-Rec. 4-wk. daily av. in thous.)	\$52,412	\$59,794	\$63,906	\$65,209	\$61,7
ectric power (millions of kilowatt-hours)	10,819 6,536	12,248 7,009	13,648 6,789	13,759 6,785	13,1
tuminous coal (daily av., thous. of tons)	1,455	1,421	1,134	r1,220	1,2
perboard (tons)	247,488	305,978	325,729	335,940	250,4
ADE					
irloadings: mfrs., miscellaneous and I.c.L. (daily av., thous. of cars)	70	64	54	56	
urloadings: all others (daily av., thous. of cars)	47 121	49 123	35 131	35 r 139	1
partment store sales index (1947-49 = 100, not seasonally adjusted) usiness failures (Dun & Bradstreet, number)	198	256	269	308	:
CES					
dustrial raw materials, daily index (BLS, 1947-49 = 100)	89.2	86.0	92.2	94.2	9
rint cloth (spot and nearby, yd.)	90.5 19.8¢	86.4 17.7€	78.7 19.5∉	78.8 19.5∉	7 19
nished steel, index (BLS, 1947-49 = 100).	143.9	186.6	186.7	186.7	18
crop steel composite (Iron Age, ton)	\$36.10	\$43.17	\$39.83	\$40.83	\$41
opper (electrolytic, delivered price, E & MJ, lb.)	32.394¢	26.465¢	30.035∉	31.125¢	31.0
Theat (No. 2, hard and dark hard winter, Kansas City, bu.)	\$2.34 34.57¢	\$1.93 34.66¢	\$2.00 31.90¢	\$2.01 31.78¢	\$2 31.7
lool tops (Boston, lb.)	\$1.96	\$1.68	\$1.95	\$1.94	\$1
IANCE					
00 stocks composite, price index (5&P's, 1941-43 = 100)	31.64	48.96	58.90	57.95	56
ledium grade corporate bond yield (Baa issues, Moody's) rime commercial paper, 4 to 6 months, N. Y. City (prevailing rate)	3.59%	4.89%	5.09%	5.14%	5.16
	2-2% %	278 70	378 70	472 /0	4977
NKING (Millions of Dollars)					
emand deposits adjusted, reporting member banks	‡ ‡	60,814	61,047 103,398	60,206r 103,745r	103,
ommercial, industrial, and agricultural loans, reporting member banks	\$	‡	29,675	29,903r	29,
. S. gov't guaranteed obligations held, reporting member banks	‡	35,340	29,196	29,054r	28,
otal federal reserve credit outstanding	26,424	26,661	28,473	28,515	28,
ONTHLY FIGURES OF THE WEEK		1953-55 Average	Year Ago	Month Ago	Late
ousing starts (in thousands)August.		101.5	124.0	126.0	12
ersonal income (seasonally adjusted, in billions)August.		\$296.1	\$362.4	\$384.0	\$38
arm income (seasonally adjusted, in billions)		\$16.0	\$17.9	\$15.7	\$1 \$20
ank debits (in billions)		\$158.1 \$73.36	\$185.8 \$84.35	\$235.6 \$89.87	\$88
/holesale prices (U. S. Dept. of Labor BLS, 1947-49 = 100)August.		110.4	119.1	119.5	11
emestic air carge (express and freight, millions of ton miles, A.T.A.**). July.		22.5	29.8		3

<sup>\*</sup> Preliminary, week ended September 12, 1959.

r Revised.

\$ Not available. Series revised. § Date for "Latest Week" on each series on request.

THE PICTURES—Cover—Grant Compton; 27—Mike Shea; 29—W.W.; 30, 31—W.W.; 32—U.P.1.; 38, 40—Joern Gerdts; 54—U.P.1.; 56, 57—Robert McCullough; 68—Universal Winding Co.; 76—Joan Sydlow; 81—C. A. Richey Enterprises; 86, 89, 93—Grant Compton; 94—(10p) W.W. (bot.) Greer & Throckmorton; 99—W.W.; 109—Grant Compton; 122—Ron Appelbe; 123—(10p) & bot. rt.) The Times, London, From Pictorial Parade, (bot. rt.) Central Press From Pictorial Parade; 126—Fox Photos; 128—Keystone; 130—Liberal Party Press Dept.; 140, 141, 142—Herb Kratovil; 163—W.W.; 165—(10p) it. & rt.) W.W. (bot. lt.) U.P.I., (bot. rt.) Harrie Ewing; 188—Corning Glass Works; 189—Grant Compton; 192—Avoc Corp.

# 3 WAYS TO GET EXTRA SALES BY LONG DISTANCE

Telephone your customers frequently between visits. You'll keep a tight line on their day-to-day needs.
 Call your out-of-the-way customers. Selling by phone is selling at low cost.

3 Invite customers to telephone you collect. They can order before they run short, without cost or inconvenience to them.

Even small sales can be closed at a profit.

In searching for extra sales, don't overlook your telephone!

### LONG DISTANCE RATES ARE LOW

Here are some examples:

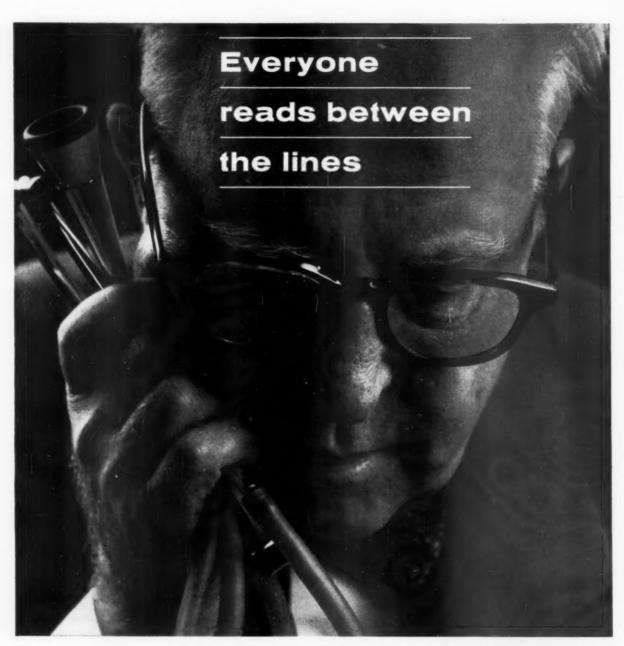
Charleston, W.Va. to Pittsburgh	70¢
New York to Baltimore	75¢
Cincinnati to Detroit	85¢
Milwaukee to Minneapolis	\$1.00
New Orleans to Houston	\$1.05

These are day rates, Station-to-Station, for the first three minutes. Add the 10% federal excise tax.



Long Distance pays off! Use it now . . . for all it's worth!





This Doctor is diagnosing a business firm: He is reading a brochure sent to him by a medical supplier. He studies the text and pictures carefully. And unconsciously, he reads between the lines — looks for evidences of sincerity and good taste. From seemingly little things — the courtesy of the wording, the reproduction of pictures, the feel of the paper — he forms his opinion of the company and its products. If the company shows respect for him through a well-presented message in a well-printed brochure — he will respect the company in return. Respectful printing begins with a good printer. See him early. The chances are he will specify Warren printing papers. He will get better results with Warren papers — and so will you.



printing papers make a good impression

S. D. WARREN COMPANY, 89 BROAD ST., BOSTON, MASS.

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### READERS REPORT

### They Wouldn't Believe It

Dear Sir

I want to congratulate you on the fine job you did in the article on ARCO's L-band accelerator [BW-Aug.29'59,p50]. I thought it was excellent. I did detect an element of disappointment, though, among some of our engineers. As you know they are a very critical group by nature and by training. and are very fond of pointing out errors in the business and popular press. Your article passed through their close scrutiny, and they were unable to come up with any misrepresentations. All agreed that it was extremely well done.

AUGUST S. KLEIN MANAGER, MARKETING DEPT. APPLIED RADIATION CORP.

WALNUT CREEK, CALIF.

### Kudos From Labor

Dear Sir:

I want to commend you on your very forthright editorial, What a Real Labor Law Would Do [BW-Aug.15'59,p144].

I suppose it is only natural that I would not agree with some of the conclusions you drew, but I did appreciate the wisdom of your point that over-zealous attacks on unions could result in more difficult labor-management relations, and work to the disadvantage of both management and labor.

Most of all, I think, I appreciated the calm, sane tone of the article, quite a contrast to the hysterical shoutings of many journalists today. In fact, your coverage of labor news is regularly much better than that of the daily press. ALLAN L. MALEY, JR.

SECRETARY-TREASURER DALLAS AFL-CIO COUNCIL DALLAS, TEX.

### Industry Yardsticks

Dear Sir:

Re: Which Employees Earn Their Keep [BW-Aug.1'59,p56] ... The article states in the fourth paragraph that the petroleum and coal products industries are the most productive and most highly capitalized of the 19 industries studied. I will agree on the most highly capitalized, but must disagree on the most productive as each worker returns only [88.6] cents worth of sales for every \$1 of capital invested; whereas in the leather industry the return is



Cleans Vast-Area Floors
"By the Mile"

Monoxide Eliminator, Powder Dispenser, and Rinse Assembly are accessories



- Completely mechanizes scrubbing
- Coverage up to 24,400 sq. ft. per hour!
- Mounts a SELF-STARTING gasoline engine

This all-in-one cleaning unit, Finnell's 218G Gasoline-Powered Combination Scrubber-Vac, is indeed the answer to today's need for increasing output per man-hour on vast-area scrubbing. The 218G applies the cleanser, scrubs, flushrinses if required, and picks up (damp-dries the floor) – all in one operation! Independence from power lines permits the machine to go wherever the operator guides it... working in and out of production areas with ease...scrubbing continuously.

Maintenance men appreciate the laborsaving features of this unit. The gasoline engine starts quickly and easily by pressing the starter button. And there are no switches to set for fast or slow—slight pressure of the hand on clutch lever adjusts speed to desired rate (up to 136 fpm). Two 18-inch brushes give a 36-inch scrubbing surface. One engine (2 cyl., 4 cycle, up to 10.1 hp maximum, and air-cooled) operates all working parts. The powerful vac performs quietly.

Whatever the area of your floors, find out what you would save with a Combination Scrubber-Vac. Finnell makes self-powered models, gasoline or propane operated, in 18, 30, 36, and 72-inch sizes; battery operated, in 20 and 26-inch sizes. And of course Finnell also makes electric models to meet specific needs. It's good to know too that a Finnell Floor Specialist and Engineer is nearby to help train your maintenance operators in the proper use of Finnell Equipment and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest Finnell Branch or Finnell System, Inc., 3809 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines



BRANCHES IN ALL PRINCIPAL CITIES \$1.81 and in the food business it is \$2.29.

DONALD F. DEVOE LOS ANGELES, CALIF.

• Reader DeVoe's point is well taken. So are his calculations.

### A Poke at Detroit

Dear Sir:

I found your article on Detroit's new compact cars well written and informative [BW—Aug.8'59,p60].

However, as an imported car aficionado (Mercedes-Benz 180; Opel Record), I was disappointed to see your writer place so much emphasis upon the economy feature of the foreign auto as being responsible for its popularity.

I quite agree with the statement attributed in your article to one middle-line manufacturer: "I don't think everybody is interested in economy." He is so right: Most of us imported car owners are interested in the one factor for which Detroit seems to care not a whit—quality of workmanship.

FLORENCE GRANTHAM

MONTGOMERY, ALA.

Dear Sir:

The article Smaller Cars for 1960 is certainly timely and highlights much of the Detroit reasoning that has developed the market of today in automobiles.

I do own a small foreign cara Karmann-Ghia-a product of Volkswagen. But-and this point is one on which none of the many articles that have been written on the small car theme has mentioned -what about quality? Sure, economy plays an important part in influencing small car choice but the one most basic and important point is that the small imports are better mechanically than current Detroit production. Somewhere along the line the idea of "planned obsolescence" crept from the sales managers conference table to the production man's wrench with the result that the present Detroit model is poorly constructed, poorly put together and begins to fall apart some time before delivery.

On this point I believe Detroit has fallen and will continue to fall on its knowing face.

WARREN F. MORRISON HILLMAN'S PURE FOODS CHICAGO, ILL.

Letters should be addressed to Readers Report Editor, BUSINESS WEEK, 330 West 42nd Street, New York 36, N. Y.



Huge benches carved from cliff will seat Niagara power house. Merritt-Chapman & Scott Corp., contractor.

### Man-made "Niagara" to boost power of falls

A monster in its field, the Niagara Power Project, to be completed in 1961, will have the largest installed generating capacity in the World: more than 2,000,000 kilowatts delivered by 13 giant turbines.

Key structure of the project is an 1840-foot-long generating plant at the base of a high rock cliff on the Niagara River at Lewiston, New Yerk. Water will flow through twin conduits from the river into a forebay above the plant, then drop a sheer 314 feet to the turbines.

To prepare the powerhouse site, 91/2

million yards of rock must be removed. To get the job done on time, the contractor is working 'round the clock, six days a week. Naturally, equipment must be of unquestioned dependability—which is one reason why Gardner-Denver "Air Trac" and heavy-duty drills were used as part of the blast hole drilling team.

Here, as on many another major civil engineering project, 100-yearyoung Gardner-Denver is again demonstrating its leadership.

Gardner-Denver Company, Quincy,



Gardner-Denver drills at work at powerhouse site.



EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

**GARDNER - DENVER** 

When you are reaching for new horizons...



### ... RELY ON R/M

On the U.S.A. missiles which have already thundered into outer space and on those yet to be launched, you are almost sure to find products made by Raybestos-Manhattan. In one type of missile, an R/M silicone rubber blanket helps solve the extremely difficult insulation problem. In other missiles, R/M Pyrotex Reinforced Plastics are being used as nozzle insulation liners, rocket tube insulators, high heat resistant structural parts, and nose cones to protect delicate guidance instruments from great heat.

On tomorrow's horizons, many products demonstrate R/M quality, progressiveness and reliability. Flexible "Teflon"\* hose is capable of handling exotic fuels. Aircraft engineers rely on R/M coated asbestos fabrics, tadpole tape, and ducting; molded, machined and extruded "Teflon"; synthetic and natural rubber parts; sintered metal products; mechanical packings and gaskets made from compressed asbestos sheet and R/M materials. Throughout all industry, hundreds of R/M products are improving performance, cutting costs and increasing production.

Whoever you are...whatever your business... an R/M product touches your life.

\*A Du Pont trademark



Missile nose cones and fins are typical of hundreds of products throughout industry where R/M asbestos reinforced plastics provide high strength to weight ratio and great heat resistance.



R/M "Teflon" hose, chemically inert, is used in a wide range of temperatures (-100°F to +500°F). It is specified for aircraft and other critical applications of innumerable kinds.

### RAYBESTOS-MANHATTAN, INC.

Passaic, N. J.

SPECIALISTS IN ASBESTOS, RUBBER, SINTERED METAL, ENGINEERED PLASTICS



Raybestos Condor · manhattan Grey-Rock



ASBESTOS TEXTILES. R/M is the country's largest producer of asbestos textile products, including roving, lap and fillers for electrical insulation, yarns, cloth, tape and specialties; abrasion and heat-resistant cloth for safety garments; and Revolite laundry pads and covers for commercial and hospital laundries.

Here are a few of the many R/M products—of asbestos, rubber, engineered plastics and sintered metal serving industry



BRAKE BLOCKS AND LININGS, CLUTCH FACINGS, AUTOMATIC TRANSMISSION PARTS. Engineered by R/M for original equipment and replacement application to assure safe and economical operation of automobiles, commercial vehicles, roadbuilding equipment, aircraft, and industrial machinery.



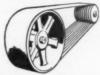
HOSE OF MANY TYPES. R/M makes a wide range of rubber hose for excellent service with air, water, steam, chemicals, food and petroleum products. Wirebraided or rubber-covered "Teflon" lined hose meets many specialized requirements.



MECHANICAL PACKINGS ÁND GASKET MATERIALS. R/M makes these in a great variety from rubber, asbestos, silicone rubber, "Teflon," and combinations of these. As original equipment and for maintenance purposes, R/M mechanical packings and gasket materials meet almost every requirement, and R/M packing engineers will custom-design additional products for special needs.



"TEFLON"—R/M "Teflon" is supplied in sheets, rods, tubes and tapes, machined parts, gaskets, packings, expansion joints, and flexible couplings. Most R/M "Teflon" products can be supplied with bondable surfaces.



POWER TRANSMISSION BELTS. The patented space and moneysaving Poly-V Drive® provides unique efficiency. R/M also makes a complete line of engineered V-belts and flat belts.



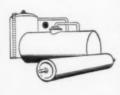
CONVEYOR BELTS. In industries everywhere, R/M conveyor belts cut costs and increase efficiency in handling coal, ore, rock, sand, gravel, earth, grain and other materials.



REINFORCED PLASTICS. R/M heat and flame resistant asbestos reinforced plastics have outstanding physical, machining and molding properties. They are used in rockets, missiles, aircraft and industrial applications.

MOLDED OR EXTRUDED silicone, natural and synthetic rubber parts. Pipe rings, diaphragms, seals and sheet, vibration dampener pads, billiard cushions and pockets, typewriter platens, laboratory tubing.





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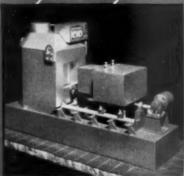
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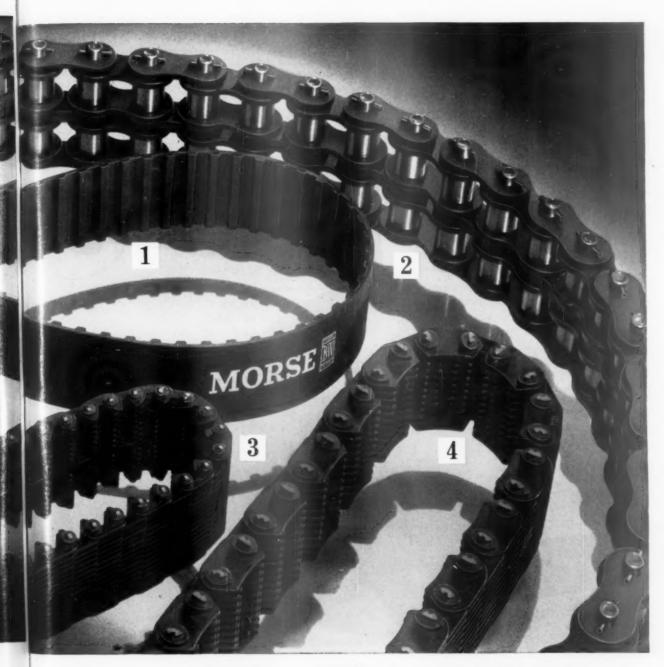
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### **BUSINESS OUTLOOK**

BUSINESS WEEK SEPT. 19, 1959



Behind the fanfare of Khrushchev's visit, conversations in the business world this week almost invariably turned to steel.

No longer was the question only when the strike would be settled or whether the government would have to step in. It also began to involve shortages and possible consequences for months into the future.

Big users of steel are nearing the day when shelves will be bare (page 27). Where shelves aren't going to be bare, there is a growing probability that bare spots will appear—production-stopping shortages of specific items.

Thus the likelihood of slowdowns or shutdowns is coming closer.

In addition, more and more manufacturers face the prospect that operations will be handicapped, even crippled, for some time to come.

Even an early reopening of the steel mills could not now avert a new round of inventory building—and a scramble for position.

Probably the orders steel companies have been booking (or refusing to book until the strike ends) contain a good deal of duplication. But they represent near-capacity business well into next year.

Here you see why throughout the postwar period, strikes have tended to be inflationary (quite aside from the size of wage awards).

These disturbances haven't really cost us production. Rather they have deferred the output and, if anything, whetted demand.

Fourth-quarter business activity, because of steel, may not rise quite so briskly as most observers had anticipated a short time ago.

Yet any shortfall between now and yearend seems destined simply to balloon the production figures in the early months next year.

Certainly the steel strike, for all its direct and indirect effects on employment, personal income, and purchasing power has not so far dealt over-all activity anything resembling a lethal blow.

- · Nonfarm employment in August was the best of any month on record.
- · Retail sales fell only slightly from earlier peak levels.
- · Factory output was dented, but not so very much more than that.
- Personal income from wages and salaries suffered only modestly.

Figures on employment and unemployment aren't up to seasonal expectations—but they are very good indeed under the circumstances.

Total employment fell about 350,000 between July and August; usually there is very little change at that time of year.

Now examine the figures. The drop was all in farm jobs. Nonfarm employment was a bit better in August than July—and more than three-quarters of a million higher than June, before the steel strike began.

Unemployment declined in July and again in August. That means little more, however, than that striking steelworkers aren't counted as being

### BUSINESS OUTLOOK (Continued)

BUSINESS WEEK SEPT. 19, 1959

unemployed (though railroad workers and coalminers, laid off because of steel, do swell the jobless rolls, of course).

Employment in factories turning out durable goods declined by half a million from June to August. Most of this drop was in primary metals, but a goodsized chunk also represented only model changes in autos.

In most other hardgoods manufacturing lines there was modest improvement from June to August, while softgoods provided about 200,000 additional jobs during this period.

Strikes' effects can be seen to some extent beyond the individuals who are losing out on paydays. There has been some shortening in the factory workweek for those still working (which could be as much due to hot weather as strikes), and average weekly earnings are about \$2.50 less than the year's best though still more than \$4 a week higher than a year ago.

Retail volume in August is estimated by the Dept. of Commerce at \$18.1-billion on the basis of preliminary reports.

Allowing for seasonal factors, that's down a couple of percentage points from the record three months immediately preceding. However, it is not all unlikely that weather was the biggest factor.

Year-to-year gains in retail trade remain very impressive, even if weather and strikes have snagged this summer's rise. Even in August, the margin over a year ago amounted to fully \$1½-billion.

Rising personal income, once the strikes are over, promises to run the final quarter's trade to a new record. This should result in a total for the year very close to \$220-billion, up nearly 10% over 1958.

Output of the nation's factories and mines dipped in August—by just about as much as you would expect with big strikes on in steel and copper.

Total production—as measured by the Federal Reserve's index—was down only four points from July, to 149. The drop from the all-time high reached in June was six points. But the August performance would have been a record for any month before last April.

Bear in mind that the August figure reflects a full month's inactivity in steel—as well as a deeper-than-usual cut in auto output as Detroit changes car models.

You get an equally good idea of the boom's basic strength when you examine the figures for nondurables.

Softgoods output stayed at the record pace reached in July. With sales going strong at retail, output of such things as clothing and household goods remains high.

And further back in the manufacturing process, boom-level production of basic materials—textiles, paper, chemicals—attests to the depth and breadth of the economy's upsurge.



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If you wish further information about the RCA 501 or about arranging a visit to the RCA Electronic Data Processing Center at Cherry Hill (near Camden), write RADIO CORPORATION OF AMERICA, Electronic Data Processing Division, Camden 2, New Jersey.



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# Now the Strike Really Hurts

Steel stockpiles are shrinking fast, with no income, all outgo. And auto and appliance plants can see the time of shutdown.

The steel squeeze has started.

 General Motors, say many of its suppliers, is running so short of steel that it will have to shut down some of its assembly lines within a month, even if the mills are working then, unless there's a strike settlement in the next few days.

• General Electric will close one of its Appliance Park production lines this week. If there's no speedy strike settlement, it will begin shutting down other lines at the 11,000-employee appliance plant at the end of the month.

 Caterpillar Tractor says it does not know if it will have enough steel to keep going after Sept. 25.

 Delayed Action—These are among the largest victims of the steel strike, now in its 10th week. The strike has lasted long enough to insure that there will be a delayed squeeze on scores of other companies, even if they don't run out of steel supplies while the mills are closed.

Budd Co. is an example of this.

"For every day the strike continues after Sept. 15," says the company, "there will be one more day of down time at Budd later in the year."

The lead time from ordering to delivery of the kinds of steel that Budd uses varies from 3 to 11 weeks; to assure Budd of steel enough for fourthquarter operations, the mills should be working on its orders now.

Scores of other companies face much the same situation. Thus, even if the strike should be settled within a week, steel inventories in many plants are already sufficiently low or enough out of balance to create slowdowns and shutdowns later this year.

### I. Steel for Autos

General Motors' official position is that it will be able to turn out enough 1960 models to give all its dealers a good sampling of all its products. To suggestions that some of its assembly



lines will have to close by mid-October, or perhaps sooner, for want of steel, GM says only: "No comment."

But late last week, according to word in Detroit, GM called a special meeting of all its divisional staffs to decide how to handle the company's steel squeeze.

This meeting grew directly from another held last winter, when all the auto makers had to decide how much steel inventory they would lay in. Then, BUSINESS WEEK has learned, GM decided 60 days' supply would be enough, while Ford and Chrysler decided to lay in 90 days' supply.

· Most Pressing-GM's most pressing shortages right now are in tin plate, cold and hot rolled sheets, plate, carbon bars, and galvanized sheets. AC Spark Plug Div. uses tin plate to make air cleaners for all GM cars and, BUSINESS WEEK learns, the division has only about two weeks' supply of tin plate left. AC is paced to work about two weeks ahead of most of GM's car assembly lines, so a stoppage at AC within two weeks will not affect assembly lines for between three and four weeks.

· Other Makers-The other auto makers can keep going longer than GM. Ford, Chrysler, and American Motors have enough inventory to last them until November, and probably a week or two beyond that. Ford, of course, has it own steel plant, which supplies about half its needs. This is still operating, for its employees are members of the United Auto Workers, not the United Steelworkers.

It's likely, then, that Ford will gain an advantage in the early stages of the Ford vs. Chevy race for 1960.

How much of an advantage is an open question. Ford late this week said: "We expect to continue operations regardless of what happens in the steel industry." But the word in Detroit is that if the mills do not reopen by mid-October, Ford will have to run at reduced pace. Ford is also more vulnerable than GM to the chance that one of its component suppliers may run out of steel, and that production will be held up for lack of one part.

Despite the squeeze on GM, one of the company's major steel suppliers insists that GM has not exerted any pressure to get the steel strike over and done with.

• Famine at GE-General Electric is caught by a fast shrinkage in its stock of sheet steels. It uses these heavily at its Appliance Park, at Louisville, Ky. These types of steel were among those in the shortest supply during the rush to build up inventories before the steel strike began. When the steelworkers walked out on July 15, General Electric said its inventory ranged from 9 to 18 weeks' supply, depending on production schedules of its various divisions.

This week it became clear that GE's

major appliance division was the one with the shortest supply of steel. The home laundry line was the first to close at Appliance Park. It shut down this week. If no more steel goes into the Appliance Park inventory, other production lines will begin closing down by the end of the month.

Some of GE's smaller plants have already scraped the bottom of their steel supplies, but they have been kept going by shifts of surplus stocks of steel from other GE plants around the country. A Pittsfield (Mass.) transformer plant, for example, is still operating because it borrowed surplus steel from another transformer plant at Rome, Ga. · Caterpillar's Plans-First word of Caterpillar Tractor's troubles came in a series of notices sent to its employees at its five major Midwestern plants. The notices said that if production was curtailed on Sept. 18, there would be a balanced inventory ready to work with when the steel mills reopened. "But," the notice added, "we believe it is practical to continue operating at least through Sept. 25. Whether we can operate beyond this date will de-

### II. Deeper Into Trouble

shortages first appear."

pend upon when and where serious

The steel squeeze is growing equally intense for scores of other smaller companies. In a survey of the nation's industrial centers this week, BUSINESS WEEK reporters talked with hundreds of businessmen and found most of them ready to estimate that their steel inventories would last only another month or so. But most of them also guessed that by Oct. 1 their inventories would be unbalanced, that production might be slowed by spot shortages of a few types of steel, that prices for the steel that's available might have reached levels that were uneconomic for them. . More Anxious-Many of these same businessmen had said in August that Labor Day was the critical date for them-that if the steel strike continued beyond that date, they would be in trouble. Few of them have had to stop or slow down production, but they're more anxious now than they were two weeks ago.

One sign of this is the increasing number of rumors now spinning around industrial centers. Just about every day there's a new inside story on the imminent settlement of the steel strike. Just as often there's fresh inside word from Washington on the imminent invoking of the Taft-Hartley Act, forcing the mills to reopen.

· Little Chance-But in the negotiations between the steel industry and its union, progress is confined to the clearing up of such small issues as interpretation of phrases in the pro-

posed steel industry-USW contract. This is being handled in talks between the individual companies and USW bargaining teams. There is no sign of progress in the settlement of major issues by the industry's and the union's

four-man negotiating groups. It's unlikely the Taft-Hartley Act will be invoked until Pres. Eisenhower has called once again for intensive bargaining between industry and union. The best estimates are that Taft-Hartley is not likely to be used unless the strike continues into October.

This week, the President wrote a letter to AFL-CIO President George Meany saving he would appoint a factfinding board with power to make recommendations-provided both management and the steelworkers would request it. The union quickly indicated that it liked the idea, but the industry, which from the beginning has resisted any White House intervention, declared that it has no intention of requesting fact-finding.

### III. Where It Hits

Labor Secv. James P. Mitchell's third report on the impact of the steel strike says lavoffs have exceeded 1,000 men in only four of the 18 major steelusing centers in the nation-outside those in the steel industry itself. Those four centers: Duluth-Superior, Kansas City, Indianapolis, and Louisville. About 80% of the men laid off there are railroad workers.

Mitchell's report covers only the first six weeks of the strike-up to the end of August. Now layoffs are increasing faster. One sector where they're growing is construction. Projects all over the country are slowing down for lack of structural steel. In several states, highway contractors are unable to meet schedules because they lack steel for bridges. Dozens of office-building projects in as many cities are moving slowly for want of steel. General Motors' AC Spark Plug Div., itself squeezed hard for steel supplies, faces a delay in moving into a new 400,000-sq.-ft. warehouse in Flint, Mich., because its contractors can't get the structural steel they need.

A few companies are getting caught by a backlash of the strike. Pullman-Standard Car Mfg. Co.'s plant at Bessemer, Ala., has sharply cut its freight car production. It has plenty of steel, but railroads have lost so much freight because of the strike that they're not ordering freight cars. For the same reason, Griffin Wheel Co.'s Cincinnati

plant has shut down.

· Fears for Yearend-Many industrial machinery makers have steel inventories to last them a month and more. Despite this, they're fearful of upset schedules later in the year even if the strike is settled in the next two weeks. For example, Pres. Henry Heuser of Henry Vogt Machine Co. of Louisville says it's already apparent his company will be hurt near the end of the year. "I've been told," he says, "that steel orders placed now can't possibly be filled until after New Year's."

• Warehouse Help—Steel supplies from warehouses are averting production slowdowns for many companies. The American Steel Warehouse Assn. says that as of last week about 2.6-million tons of steel were available in warehouses throughout the country. At the start of the strike, these warehouses had 3.7-million tons.

But warehouse stocks aren't balanced against demand, and shortages are showing up fast in such products as galvanized sheets, cold rolled coils, light plate, wide flange beams, and carbon bars.

Says one Midwest steel warehouseman: "The customers are getting anxious now. They're ready to accept substitutes, they're paying the freight charges, and they're losing their resistance to buying foreign steel." Imported steel, say many warehousemen, is increasing rapidly in price. "A \$5-a-ton increase from one week to the next isn't uncommon," says one.

• Border Crossing—Some imports are coming from just across the border. Canadian steel warehouses say that since Labor Day they have been getting urgent calls for steel from companies in Buffalo, Chicago, Philadelphia, and even as far off as Sacramento. Says a Toronto steel warehouseman: "If the strike lasts beyond Oct. 1 the Americans will be crawling all over us for steel."

One Canadian warehouse is exporting cold rolled coil to Philadelphia. This normally sells in Philadelphia for 9¢ a lb.; the warehouse charges between 12¢ and 17¢ a lb. To that is added the 5% premium on the Canadian dollar. And on top of it all is the U.S. tariff on imported steel.

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Canada, though, can't meet all U.S. orders because it does not have much steel to spare. It's still dependent on U.S. mills for 25% of its steel.

• Prices Edging Up—Domestic steel prices are climbing, too. A Cincinnati steel warehouseman gives this example: "Cold rolled coil in an average goodsized order runs about 8¢ to 8½¢ a lb. at a warehouse. In the 'open market' it's about 11¢ to 12½¢ a lb. now. And it might go to 15¢ or 16¢ a lb. before the strike's over."

He adds: "Pretty soon some small companies might find their inventory worth more as steel than as finished product."

About 10% of the nation's steel capacity is still operating. The mills that are open are getting all the business they can handle. One of these is Granite

City Steel Co. It has no spare ingot capacity, but it does have surplus capacity for rolling ingots into sheet steel. "And now," says one of its executives, "we're getting feelers from people who might represent the auto industry or its suppliers who want to know if we'll roll any ingots they might deliver to the mill." Such finished steel, he says, would cost a user about double the normal mill price.

• Gambling on Demand—Steel scrap prices have been gaining lately, too, but this is for a different reason, because only the steel mills can use scrap. Since the strike began they have climbed from \$39 a ton to \$41.50 a ton.

The increase is based mostly on speculation. Scrap demand—and prices—were low before the strike. Now brokers guess demand will be much better once the strike is settled. They

reason that steel mills will go quickly into a long period of high operating rates to rebuild depleted inventories as well as to supply fast-increasing industrial production. They are also gambling that the steel mills will be pinched for iron ore during the winter, because the ore fleet is laid up while the strike lasts. Scrap supplies would help mitigate an iron ore pinch.

Actually, the iron ore pinch probably will not be severe, even though ore shipping will cease by mid-December when the Great Lakes freeze over. An iron ore company executive explains: "If the strike had ended on Sept. 15 we would have reached Apr. 1, 1960, (when Lake shipping resumes) with a 45-day stockpile of ore on hand. For each day the strike continues after Sept. 15, subtract one-half a day from the ore stocks that will remain next Apr. I."



### The "Big A" Is a Horseplayer's Delight

"Blessed are the horseplayers, for they shall inherit the turf," intoned the dapper little man at the rail. "We never had it so good," echoed his companion. Around the two, 47,000 other improvers of the breed also buzzed approval as they watched the horses race (picture). Horseplayers, indeed, had never had it so good. New York's Aqueduct Racetrack, the "Big A," had opened for business and it was all that had been promised.

The most magnificent betting plant ever assembled for gathering and dispensing money, the "Big A" was built for \$33-million. Its four stories, bathed inside and out with 210 shades of paint, rise on seven acres and can hold 80,000 fans. Deep within has been installed the grandest assembly of betting machines ever devised—783 in all. "A \$10-million handle would be a cinch for

them," boasts American Totalisator Div., whose instruments handled easily the \$3.4-million bet opening day.

With this kind of plant, racing in New York State is expected to get back on all fours. Hobbled for years by rundown tracks, owned by individual owners, New York racing has been in the hands of the non-profit New York Racing Assn. since 1955. Under a plan devised by The Jockey Club, and approved by New York Legislature, the association bought New York's four major tracks-Belmont, Jamaica, Aqueduct, and Saratoga-for \$20-million. It rebuilt Saratoga and modernized Belmont. Its ultimate plan, a new Aqueduct track, was financed by increasing the association's "takeout" on betting from 4% to 5%. Last week, with the opening of the Big A, New York racing was off and running again.



DISEMBARKING from big Soviet Tu-114 turboprop that brought him to Washington, the almost roly-poly Khrushchev walked red carpet beside host Eisenhower.



CURIOUS CROWDS lining Washington streets got a good look at the two heads of state riding in open car (second in line), but there was little cheering. Police and troops kept guard.

# Historic Exchange Begins With

Khrushchev's talks with Eisenhower, here and in Moscow, may bring a truce on Berlin, progress on arms control, and more trade between East and West.

For all its fateful implications, the first meeting of Pres. Eisenhower and Nikita Khrushchev in Washington this week turned out to be a quiet, even routine affair.

Both men pronounced platitudes as they met at Andrews Air Force Base. The 15-mile ride into Washington, with the President sitting uncomfortably between the Soviet leader and Mme. Khrushchev, was noteworthy only for the heavy deployment of plainclothesmen, uniformed police, and troops along the route-and for the cool courtesy of the crowds. Even when the two men were together at the White House-first in a two-hour conference and then at a state dinner-they talked in generalities, mostly about what they would talk about later. They spent only 15 minutes alone.

To be sure, Khrushchev's speech and fielding of questions before an overflow crowd at the National Press Club Wednesday noon were witty, hard-hitting, colorful—and he did promise to make a major new proposal on disarmament to the United Nations later in the week. But it still was a standard performance for Khrushchev, a political showman of Churchillian stature. Certainly, he gave

no hint of any flexibility in his known positions on big cold war issues such as Berlin. Nor did he indicate that his now familiar pleas for peace went much beyond propaganda.

• Hopeful Observers—But as Khrushchev took off at midweek to tour the U.S., following roughly the trail blazed by his lieutenants Anastas Mikovan and Frol Kozlov earlier in the year, the public all over the world followed his progress with hope. The hope was that somehow the two balding, aging leaders could start putting the relations of the world's two super powers on a new footing, could find a way to limit their struggle for power to peaceful competition.

By the time Khrushchev left Washington, however, nothing concrete had developed to make U.S. officials any more—or less—optimistic about an improvement in U.S.-Soviet relations.

### I. What May Be Achieved

Although Washington at midweek had no concrete evidence to justify their hope, some of the most hardened U.S. diplomats, veterans of earlier fruitless negotiations with the Soviets, were cautiously optimistic. They size up the prospects this way:

At the very least, they say, the U.S. is moving into a period of almost continuous talks with the Soviets at all levels, and that's all to the good. What's more, there is a chance that out of the Eisenhower-Khrushchev talks at Camp David next week—and those to be held when the President goes to Moscow—will come at least these steps to ease East-West tension:

Shelving of the Berlin issue for some time to come.

This might take the form of an agreement in principle for an interim arrangement on Berlin, to be worked out in detail by the Big Four foreign ministers and possibly ratified at the summit.

Or, more likely, there would be a tacit moratorium on Berlin, with Khrushchev indefinitely dropping his demand that Western troops get out.

An agreement to ban at least those nuclear tests that produce heavy fallout, with an adequate inspection system to make the ban stipk.

This possibly could serve as a pilot experiment for later, more ambitious, arms control agreements. In the past, the obstacle to all forms of arms control has been Soviet refusal to accept inspection.

Increased cultural and scientific exchanges between the two countries all along the line.

Moscow, for example, stopped jam-



GIFT-BEARING traveler gave President a model of Soviet sphere landed on moon. Later, Khrushchev and party dined off roast turkey at White House with guests including U. S. business leaders.



SPEECHMAKING Khrushchev joins in applause after his address to National Press Club. He also took helicopter ride viewing typical Americana such as drive-in theater.

# Hope for a Thaw in Cold War

ming Voice of America broadcasts to Russia, for the first time in a decade, in order to let the Russian people hear the VOA account of Khrushchev's arrival. Khrushchev may provisionally halt jamming for a longer period. And U.S. atomic energy officials hope Khrushchev may agree to exchange much more information on the peaceful uses of atomic energy.

• Other Proposals—Such steps admittedly would be only a modest start toward ending the cold war. But more spectacular proposals almost certainly will be advanced by both Eisenhower and Khrushchev as their talks go along, if only as trial balloons. For example, there were plausible reports at midweek that Khrushchev, in his address to the United Nations or later, would make a glittering new proposal for joint U.S.-U.S.S.R. exploration of outer space.

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Even though the U.S. seems pretty well committed to a broad international space program under U.N. auspices, the idea of special bilateral cooperation with Moscow in this field might well appeal to Washington.

Eisenhower may expand upon a suggestion he threw out during his recent fireside chat in London with Prime Minister Macmillan—that the West ask for Soviet cooperation in assisting underdeveloped countries. However, the most he's apt to propose is that the Soviet Union seek to join the

World Bank and the International Development Assn.

• Barter Wanted—There seems to be more chance for a gradual change in the U.S. attitude toward trade with the U.S.S.R. Publicly, the State Dept. has been taking a stubborn position against any further relaxation of strategic controls on exports of many types of advanced industrial equipment and technology to the Soviet Union. It also opposes amending the Johnson Act to permit the granting of private credit to the Soviets or restoring most favored nation treatment to their imports.

Pres. Eisenhower, not so rigid in his view, apparently plans to make Khrushchev at least a minor offer on trade when they meet at Camp David.

### II. Potential Trouble

No one can be sure at this stage, of course, whether Eisenhower's attempt to lift U.S.-Soviet relations out of stalemate will achieve even the modest success for which he hopes.

For his part, Khrushchev already can chalk up a substantial gain. By being received in Washington by the President with full honors, he has scored a personal triumph. In the eyes both of his own people, and of the world, he now has a status never before attained by a Soviet leader.

• Stronger Satellites-In fact, there is

some fear in Washington that Khrushchev may not be interested in any serious moves to lessen East-West tension; he may merely seek to use his enhanced prestige to win new cold war victories. There is little doubt, for example, that the exchange of visits with Eisenhower will strengthen the Soviet position in Eastern Europe. It will also make it more difficult for Washington to persuade neutral nations that it is dangerous to cultivate friendly relations with Moscow.

Even if Khrushchev hardens his stand, though, U.S. officials don't think that Eisenhower's initiative in promoting the exchange would be a dead loss. It would at least prove to the world that the President and the country were willing to make every effort in the search for peace. This would put the U.S. in a stronger psychological position to resist new Soviet pressures.

#### III. Potential Gains

However, the evidence so far indicates that Khrushchev wants more than a cheap political victory out of his new relationship with the President.

He almost certainly wants to procure advanced U.S. machinery and industrial processes to speed accomplishment of the Soviet Seven-Year Plan and cut its cost. Without doubt he sincerely believes Communism will ultimately defeat capitalism by superior economic

power. The Seven-Year Plan is designed to achieve this goal.

Beyond that, Khrushchev undoubtedly resents U.S. discrimination against the Soviet Union in trade. Underneath his bombast, he seems to share the prevalent Russian inferiority complex toward the outside world, and he's touchy about any discriminatory treatment.

• Limiting the Race—Then, too, Khrushchev and Eisenhower probably have somewhat the same interest in holding down the arms race. In the U.S., it is the inflationary aspect of an arms buildup that's bothersome; in the U.S.S.R., it's a matter of finding the resources both for defense and for more

consumer goods.

These incentives for wanting a truce in the cold war often have been attributed to the Soviets in the past by Harold Stassen and other Western leaders. So far, there has been little proof that Khrushchev is much motivated by them. • Politician in Trouble?-But some U.S. officials think Khrushchev now may be under new pressures to seek better relations with the U.S. There is evidence of growing popular demand in the Soviet Union for concrete steps to reduce the danger of war. At the same time, there is reason to believe that there has been some opposition in the Presidium of the Communist Party to Khrushchev's exchange of visits with the President. Thus, Khrushchev's own political position may depend to some extent upon his ability to prove to the average Russian that he is doing something to secure peace. More and more, he seems to be depending on his popularity with the Soviet people to keep some restive party bigwigs in line.

Of course, the Soviet Union will have to pay a price if it really wants the political and economic advantages of a truce in the cold war. The price is to stop using military pressure to expand

the Soviet empire.

• Eisenhower's Message—This may be the most important message the President will try to put across to Khrushchev during the next few weeks.

Berlin is a case in point. Eisenhower won't insist that Khrushchev formally reaffirm Allied rights to stay in the former German capital. But he will expect the threat to Berlin to be lifted, at least tacitly. The President's minimum objective is to put the Berlin problem on ice until the European political situation makes it possible to try again for an over-all German settlement—perhaps accompanied by gradual military disengagement.

Eisenhower's reasoning is the same with respect to other political hot spots of the world—though where Red China's ambitions are involved, Eisenhower recognizes that his objective will

be harder to realize. END



### What Moon Shot Means

Soviets' success in hitting the moon shows they have ultraprecise guidance, widens the lead over U.S. in space rivalry.

Behind the headlines shouting about the Soviet Union's successful moon shot last week two sobering facts emerge:

 Russian scientists have once again proved they aren't exaggerating claims of progress in rocket development

 The U.S., despite a warning two years ago from Sputnik that it was lagging in rocket and missile research, is dropping farther than ever behind in the race for space—largely because of a continuing tangle of infighting among politicians and the military.

But so far, there's no indication that the gap has widened in the development of military missiles. U.S. scientists are still confident that they are on a par with the Russians—particularly when it comes to the intermediate range ballistic missiles. In space research, however, there's no denying that the Russians are now perhaps as many as three years ahead of the U.S. scientific effort.

The Soviet achievement consisted of delivering an 860-lb. package to target on schedule, with a degree of accuracy that reveals great sophistication in rocketry. The moon rocket, more than 125 ft. tall and weighing in excess of 85 tons, was the same vehicle originally designed to carry a thermonuclear warhead 6,000 miles. An earlier version fired the first Lunik a few days before the Mikovan visit to the U. S. last January. With a thrust of 800,000 lb. or

more, it's the rocket the Russians say will be operational and in the hands of the military late this year or early in 1960.

• Radio Checks-To many American scientists, the biggest surprise about the moon shot was that the Soviets had a guidance system precise enough to achieve such pinpoint firing accuracy (picture). It was known that the Soviets were developing a radio-inertial guidance system for use on their intercontinental ballistic missiles, similar to the sort of system that is employed on several of the large U.S. military rockets. Basically, guidance of this sort is inertial -keeping track of its position by detecting changes in its own speed and constantly computing its position; but the rocket checks its position by taking radio fixes, too. Previous reports had not indicated that the Russian radioinertial systems were even close to the precision of U.S. models. As an added irony, there's an unconfirmed report that the Soviet rocket used the beeps from a U.S. Vanguard satellite now in orbit as a radio checkpoint en route to the moon. And further, that there may have been small steering rockets added to one of its upper stages to ensure navigational control once the rocket burst up out of the earth's atmosphere.

From this accomplishment, it's clear that Russian guidance systems are every bit as good as the systems the U. S. will install in its Atlas and Titan missiles. This factor—together with the tremendous thrust the big Soviet rockets attain—is the thing that puts the U. S. farther behind in space exploration than it thought.

First stage rocket power is the thing that the U.S. needs so badly if it ever

hopes to emulate the Russian ability to loft big payloads up to the moon's surface. And increased first stage power is also the thing that will enable U.S. scientists to put guidance control rockets on the upper stages of space vehicles. Reliable guidance systems are available to use right now. But engineers can't use them because they haven't a rocket with enough power to lift the increased weight off the ground.

· Watchers in Britain-There can be no doubt as to the accuracy of Russian reports on the firing. They were corroborated by British astronomers tracking the moon rocket's progress by radio telescope from Jodrell Bank. Watchers there noted rapid acceleration of the rocket during its last hour of flightcoinciding exactly with theoretical calculations of how a free-falling body would behave as it approached the

moon's surface.

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Starting 10 hours after the rocket launching, the British received regular reports from Moscow on the vehicle's position. The time of impact was originally estimated by the Soviets at 10:05 p.m. London time Sept. 13, later revised to 10:01 p.m. All such information was "astonishingly" precise, according to British scientists.

· Discoveries-The Russians say they are still decoding and studying scientific data radioed back from the rocket on two frequencies during the trip to the The signals were consistently strong. Instruments aboard the rocket

measured such things as:

· The extent of the moon's mag-

netic field.

 The position of the belts of cosmic radiation girdling the earth. The data should also show whether the moon has a radiation belt of its own.

· The presence of any gases in interplanetary space and of micrometeorites in the vicinity of the moon. Both could affect the design of manned

space ships.

· Makeshift Models-When will the U.S. be able to collect this kind of information from space on its own? At the moment, no one knows for sure. The budget for rocket, missile, and space work now stands at half a billion dollars a vear. But until next midsummer, most space shots will have to be made with makeshift vehicles-military rockets such as Atlas, Thor, and Jupiter. lashed together to achieve the necessary thrust for space flight. These rockets are reliable workhorses in the jobs for which they were designed, but in complex combinations errors are more likely.

About a year from now, the situation should change. By that time, a whole series of rockets especially designed for space experiments should be available. First of the new vehicles will be the Scout, a four-stage rocket for firing communications, weather, and navigational satellites around the earth. Next will come Vega, Centaur, and several vet-unnamed rockets-all built for jobs such as sending 6,000-lb. satellites into orbit around the earth, 1,000-lb. payloads to Mars, 20,000-lb. payloads to the moon, and even a 1-ton pavload to the moon and back again.

Until the Russians planted their rocket on the moon, U.S. scientists were openly skeptical about chances for enough money to make such ventures possible. Congress had lopped \$68.2million off the National Aeronautics & Space Administration's budget for this fiscal year. Now there's hope that the funds may be restored.

· Timetable-Meanwhile, firing crews at Cape Canaveral and at Vandenberg Air Force Base in California won't be idle. Their current schedule:

· A final Vanguard shot in late September to collect more data on cosmic radiation. This shot was originally scheduled for Tuesday, but, due

to ignition trouble, it refused to move off the firing pad.

· A high-altitude shot by an Army Jupiter to continue tests on the reentry problem. This firing was also postponed from Tuesday because of technical troubles

· A Juno II firing late this month to check on meteorites, radiation, and temperatures and on the operation of unshielded solar batteries in space.

· A firing sometime this week from the West Coast for experiments in space navigation and communications. Scientists hope to gain mapping experience from the test.

· An attempt to orbit the moon on Oct. 3 or 4 with a paddle-wheeled satellite, carrying equipment to relay back photographs of the moon's sur-The odds for success of this sixth U.S. moon shot are extremely slim. Retrorockets will be needed to slow the vehicle in its approach to the moon, and guidance will have to be almost infinitely precise to put it into proper position as it enters the moon's gravitational field. "We will have to have completely perfect performance of about a thousand different things," says a Canaveral rocketeer. "It's possible, but it's improbable.'

satellite launching toward Mars or Venus in late October or November. The aim won't be to achieve orbit around the planet but to collect information about radiation and meteorite activity in the neighborhood of the

two planets

· Another deep space probe in November, also to study radiation and

In addition, NASA will be experimenting with Project Mercury-the program for putting a man into an orbit in space and then returning him to earth, next vear if possible.

### **CompactCarPrices**

Corvair will be priced at \$1,810 to \$1,920 at list. Other Big 3 compacts are expected to be in about same range.

This week prospective buyers of Detroit's newest small cars got their first idea of how much they'll have to pay. Chevrolet Div. of General Motors disclosed that factory list prices for the rear-engined Corvair will range from \$1,810 for the cheapest two-door coupe to \$1,920 for the most expensive fourdoor sedan.

These prices, however, do not include federal excise tax or dealer preparation. Such charges will raise the Detroit price (known as factory advertised delivered price) to a more realistic \$1,980 to \$2,100. Transportation charges and local taxes in other areas are extra.

Following the traditional pattern, Ford and Chrysler will probably price their economy cars very close to the Corvair. Announcements on the Falcon and Valiant prices are not expected

until later, however.

· The Extras-Chevrolet also said the price on the Corvair automatic transmission will be \$135, or \$50 less than on the bigger Chevys. A gasoline heater will sell for "less than \$70," and a station wagon-like fold down seat for added luggage space for "\$25 to \$30," Chevrolet indicated.

The cheapest four-door Corvair has a factory list only \$2 greater than the lowest-priced 1960 Studebaker Lark: \$1,858 for the Lark de luxe 6-cylinder four-door, and \$1,860 for the Corvair. Other factory list prices announced by Studebaker this week are \$2,386 for the Lark soft-top convertible and, at the top of its line, \$2,510 for the Lark V-8 con-

American Motors presumably will still have the least expensive-though smaller -U.S. four-door sedan when it introduces such a model in the American

series next month. Although no prices have been announced, the two-door American has an ADP tag about \$1,835; four-door should cost about \$50 more. • Eventual Discounts-Assuming that

dealers will return to their usual discounting practices once initial demand is settled, it may be possible to buy a Corvair in Detroit for as little as \$1,850, equipped with a heater and all taxes paid. This would be about \$100 less than the standard Chevrolet Biscayne 6, if the same amount of profit-about \$100-is made by the dealer.

On the other hand, customers rushing to get the first, fully equipped de luxe Corvairs may find price tags up to \$2,600 and no discounts offered.

# Housing Pace Slows But Pinch Holds Off

In each of the three postwar recessions, the homebuilding industry has answered its cue. Each time-in 1949, 1954 and 1958-it performed its contracyclical role almost to perfection. It charged in to lift the U.S. economy out of the mire and send it on the high road

to prosperity.

But having completed its rescue mission, the industry now-as before-is loath to be shunted into the background. Homebuilders and mortgage lenders alike want to continue building homes-year in and year out-at the near 1.4-million clip that has been maintained so far this year (chart, page 36).

But this is not in the script.

· Money Calls the Tune-Homebuilding flourishes during recessions because of cheap money-and plenty of it. When other industries revive and prosperity returns, money becomes dearer and harder to get. So homebuilding -which is financed to a large extent with fixed-interest Federal Housing Administration and Veterans Administration mortgages-is usually the first to suffer from tight money.

Now the U.S. economy is experiencing the highest interest rates in 30 years and money costs are still climbing. Homebuilders in most parts of the country find mortgage money harder and harder to get. When they do arrange a loan, they discover that mortgage loan rates have soared to unprecedented levels ranging from about 51% in the Northeast to 7% or more in money-short California. And the end

is not in sight.

· Pinch-But When?-How soon, then, will tight money pinch back housing to the 1-million or so rate of home starts now widely predicted for sometime in 1960 by money market men and by

some housing experts?

The answer is: not until next spring, and perhaps not even then. That's the answer that BUSINESS WEEK reporters came up with this week as they talked to homebuilders, mortgage lenders, housing consultants, and real estate dealers across the country.

Everyone moans about tight money. But money is still available-at a price. As one Los Angeles builder puts it, "We can get money, but we're paying pawn-

broker prices.

And high money costs have yet to put much of a dent in housing demand. Bankers, and savings and loan officials are becoming choosier about qualifying home buvers for mortgages, so the marginal credit risks are being weeded out in many parts of the country.

· Damper-This tightening up of credit requirements-plus the higher monthly interest charge-has put a slight but noticeable damper on sales of lowerpriced homes in such areas as Los Angeles, Atlanta, and Cleveland. But some Los Angeles builders are getting around this by contract selling-taking homes in their own names, moving "buyers" in for a few hundred dollars, and transferring title later on.

Then, too, the steel strike has crimped sales of lower-range housing in such steel centers as Pittsburgh, Cleveland, and Chicago. Little Rock has a different problem: Recent bombings and the school controversy there have hurt home sales; some residents are selling their homes and moving away. · High Priced Splurge-But sales of homes in the higher-priced rangemainly financed by conventional loanshave continued strong and may even im-

prove in coming months. In almost all parts of the country-Long Island, Chicago, Phoenix, Los Angeles, Chicago, Cleveland, Columbus-the huge growth in the high-income consumer bracket is reflected in a healthy market for homes in the \$20,000 to \$40,000 area.

Tight money causes trouble here only in a shortage of money to finance resale of the existing homes that home buvers

turn in as downpayments.

### 1. Optimists vs. Pessimists

Demand for housing, then, appears to have been affected only slightly so

far by tight money.

Builders were starting new homes at an annual rate of more than 1.4-million this spring. During the early summer months, their pace slackened to about 1.37-million. In August, starts dipped to a 1.34-million rate. But any further decline in starts will come only if builders cannot get enough mortgage financing-or if they are scared off by climbing interest rates.

· Two Schools-Optimists and pessimists alike think builders have sufficient advance commitments to start homes at close to a 1.3-million rate through the rest of this year and early 1960. But from this point, the two groups part

New York money market experts and Washington housing consultants lean toward a starts total between 1-million and 1.1-million for 1960. But FHA

maze of institutions and prac-A tices makes the mortgage market tick. The familiar "conventional" mortgage-handled from beginning to end by a local institution -still finances most homebuilding. But the gyrations of today's housing industry involve the much more complex market mechanism for government-backed mortgages. It's the relative appeal of these fixedinterest Federal Housing Administration and Veterans Administration mortgages that determines how much housing gets built.

· Builder's Story-Take a typical,

and fictional, example:

Jason Smith, a California builder, built 500 homes for sale this year. Smith went to his local FHA office last year for an appraisal of his building plans. FHA experts went over his property and blueprints painstakingly, then issued a commitment to insure the mortgage loans when the houses were sold.

Smith then went to a mortgage company for financing. The mortgage company arranged a stand-by commitment with a commercial bank whereby the bank agreed to take up the 51% FHA mortgage at 93¢ on the dollar if no other buver could be found. At the same time, the bank gave builder Smith a construction loan and promised the mortgage company interim financing while it carried the mort-

While Smith built his homes and put them on sale, the mortgage company tried to secure commitments from the big East Coast lending institutions to buy the mortgages. It succeeded. So, after the houses had been sold and the mortgage papers processed, it delivered the mortgages to a life insurance company-a permanent

investor-at 96.

During the two to six months' period needed to process the papers after the homes were sold, the mortgage company carried the mortgages with the help of the bank's interim financing-known in the trade as a warehouse loan. If

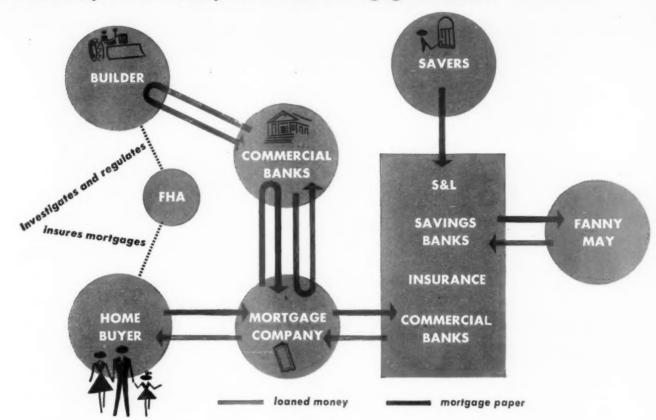
officials, Federal Reserve Board economists, and some private analysts look for a higher rate.

• Hopeful-The optimists look to two important factors that will keep housing

from a precipitous decline:

• The new housing bill passed by Congress last week authorizes a cut in downpayment requirements for FHAinsured mortgages. On an \$18,000 house, this works out as a reduction from \$1,400 to \$900. For a \$25,000

#### Anatomy of the Complex Home Mortgage Market



it hadn't made its insurance company deal, the mortgage company could have turned the mortgages over to the bank under the stand-by commitment to buy the mortgages at 93. Or it could have sold the mortgages to Fanny May at 95.

 Keys—The keys to this national mortgage market are three government agencies.

The Federal National Mortgage Assn. (Fanny May) has two main programs: (1) secondary market operations to stabilize the mortgage market, and (2) special assistance to new housing schemes, such as urban renewal and old-age housing. Its secondary market operations are the more significant today.

Here Fanny May performs essentially the function of a national mortgage banker, buying FHA-insured mortgages when mortgage money is unavailable, and selling those mortgages when money is easy and mortgages become relatively more appealing to lenders than other forms of investment. It gets its funds to buy mortgages by issuing debentures to the public. Right now it is buying heavily.

Federal Housing Administration (FHA) is the government's insurer for mortgages. It does not lend money; it merely guarantees that the lender will get his money back if the mortgage defaults. In practice, FHA has substantial influence

on homebuilding—it exerts pressure on terms, interest rates, and the speed at which new mortgages are approved for insurance. At present, FHA insures mortgages at 5½% interest, but the ceiling set by Congress is 6%, and there now is pressure to lift the 5½% rate.

Veterans Administration (VA) has two housing programs: (1) a loan guarantee program for veterans housing; (2) a direct loan program, mainly to funnel money into rural areas where financing is unavailable. With money getting tighter, VA's fixed-interest rates—raised to 51% last July—are below mortgage market rates, but any change requires Congressional action.

house, the cut is from \$5,000 to \$3,000. The FHA is expected to use this power soon. Another new bill permits nationally chartered banks to loan up to 75% of a property's appraised value.

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 Homebuilding has become more stable because more homes are being financed with conventional mortgages.

• Gloomy—Housing experts taking the gloomier view think the industry's tightmoney troubles are just beginning. Here's why:

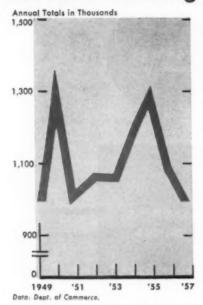
• Fanny May (Federal National Mortgage Assn.) money is drying up. Much of the housing built in the last year was financed by Fanny May's special purchase of \$1-billion in mortgages. As a lender of last resort, Fanny May has been deluged since May with offers of FHA and VA mortgages because its purchase prices have been above the market. This week, Fanny May moved to stem the flow by dropping its price by one and one-half points. With

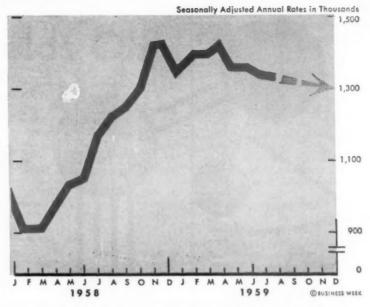
Fanny May lowering its price floor, other lenders are likely to lower their quotes—thus raising interest costs.

• FHA may be forced before 1960 to raise the interest rate on home mortgages it insures from the present 5½% to 5½%. Builders on the Pacific Coast are already complaining that eight- or nine-point discounts bring them only 91¢ or 92¢ on the dollar of the face value of a mortgage.

· Effect on Economy-No matter

#### **Private Housing Starts**





whether housing's decline turns out to be steep or gradual, scarcely anyone believes that the fall-off will hurt the economy very much.

One Washington authority on housing, however, argues against this comfortable view. "A decline in housing," he claims, "generally precedes a decline in economic activity by six months to a year."

#### II. Builders' Troubles

But, though tight money has yet to affect seriously housing start figures, it is already hurting the homebuilder. In Louisville, for example, bankruptcies among builders are on the rise. In Chicago, three small builders suddenly found that their mortgage company would no longer finance them.

Advance commitments made last winter will carry most builders through until next year. But the soaring cost of money has many builders completely up in the air about 1960 plans. One Philadelphia builder says, "We're finishing up the starts from a few months back without too much concrete planning for the future,"

Some builders even find that their so-called firm commitments weren't quite so firm after all. A homebuilder in Columbus complains that a mortgage company refused on a legal technicality to honor commitments for 100 homes.

But mortgage companies also have their problems. Take the case of A. B. Robbs, whose mortgage company originates mortgages in the Phoenix area. "We are now closing about \$2-million a month," he says, "but we're only able to sell approximately \$500,000 per

month to banks and insurance companies. The balance is being sold to Fanny May."

#### III. Lenders Look Ahead

How much money homebuilders will get next year is already being determined in large measure by mortgage lenders throughout the country. Most important in regulating the money flow are the big Eastern savings institutions—mutual savings banks, life insurance companies, and commercial banks. And first among these are the large banks and life companies in New York and Boston.

These lenders plan their lending activities far in advance. Life insurance companies, for example, now are issuing commitments to buy home mortgages as much as 18 months in the future.

• Main Support—The life companies—

along with the S&Ls—are likely to be the main props of the housing industry during the coming year. Insurance companies have continued to make heavy advance commitments for home loans because of a shortage of competing investments. They usually invest big sums in privately placed corporate bonds; but demand for such loans has been light so far. Most insurance companies expect to put as much into mortgages in 1960 as this year. One of the nation's largest companies, in fact, plans to increase its commitments.

All of this money will cost more. Some insurance companies are reported to be holding back commitments temporarily to await an expected hike in FHA rates to 5½%. One Little Rock mortgage company—a correspondent of a big Eastern insurance outfit—received a telegram last week instructing it not

to make commitments for any more conventional loans at less than 6½%, or for FHA's without a six-point discount

• Cutting Back—Mutual savings banks, on the other hand, are generally cutting back on mortgage loans. Many of them—especially in New York City—are suffering from a drop in savings deposits. Several big New York City banks are merely reinvesting their mortgage repayments without expanding their holdings. They hope to commit more mortgage funds later on if they attract more savers after raising interest rates on savings from 3½% to 3½% in October.

In other cities, the savings bankers have had better luck in holding savings deposits. In Boston, a savings bank officer crows "We've got lots of mort gage money . . . so much, in fact, that we're going out of state to buy more."

• S&L Funds—For builders of higherpriced homes, the best bets for mortgage money are the S&Ls, which have boosted their share of the public's cash savings—mainly by higher interest rates. But with a swollen demand for conventional loans, the S&Ls find they have to fight off potential borrowers.

The S&Ls have already gone in hock to the Federal Home Loan Banks to the tune of \$1.5-billion in cash advances to take care of borrowers until their share accounts grow to meet the demand.

But now even the S&Ls in many parts of the country have noticed a slackening in growth of share accounts since August as consumers put more money into the stock market or buy new cars and appliances. Noting this slowdown, one Chicago S&L officer observes, "I don't think the public is aware of the potential shortage of mortgage money."



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TROUBLED labor chiefs talk things over at San Francisco AFL-CIO convention this week.

# Labor Chiefs Face Frustration, Dilemmas

Some union heads at San Francisco convention (pictures) say federation should start acting like the old CIO.

Early this week, labor's leaders gathered in San Francisco in an atmosphere of tension. As they talked in hotel lobbies and corridors (pictures), it was clear that for the first time in many years, American labor is on the defensive—grimly determined to gather forces against strong pressures in every area of its activities.

It has suffered serious setbacks in bargaining, organizing, legislative, and political fields. It has had very few off-setting successes. And it faces growing problems. The national strike by the United Steelworkers against the basic steel industry is in its tenth week, the USW—labor's third largest union—is beginning to show strains, and all labor recognizes that any defeat for USW would be a reverse for all unions facing negotiations later this year or next.

Moreover, Congress has just passed "tough" reform legislation over the objections of labor. And, in the process, labor has found that "the victory we achieved, or thought we achieved, at the polls in 1958" was meaningless.

• Lack of Muscles?—Four years ago, unions in the old AFL and CIO counted on their merger into AFL-CIO to give them the brawn and muscle for new successes. The amalgamation did succeed in creating more unity in labor's ranks than most of its leaders really expected. Indeed, the federation's biggest success so far is the fact that it has hung together.

Its unification of 135 unions with an estimated 13.5-million members gives it a potential muscle. Used effectively, the muscle could give labor economic and social power. But the muscles haven't been used effectively. Some of labor's top leaders complain, in frustration, that the muscles are there—but they are flabby and untrained.

The biggest problem facing AFL-CIO when it assembled in biennial convention this week was how this muscle—this potential of labor power—can be put to more effective use in a counter-offensive against "an organized attack on the trade union movement," one that Pres. George Meany of the federation of unions warned should not be underestimated or considered "sort of a figure of speech."

"We do have a strong and growing opposition and . . . we should look upon this opposition and our own position in a realistic way," Meany warned. However, for the unions, recognizing

However, for the unions, recognizing the problems facing them and doing something about them are different things.

• Frustration—The rallying call at the start of the AFL-CIO convention was: "Close ranks against the enemy."

It is much easier for unions to shout this than to accept the idea wholcheartedly.

In order to achieve a militant solidarity in depth, the unions would have to put aside rivalries and jealousies and differences of basic philosophy. They are hardly likely to do so.

The fact is, there is much less confidence and assurance in labor's top leadership than television news extracts and newspaper headlines indicate. Privately, the men who determine labor's policies are frustrated—and far from united in their thinking about what labor can do to increase its effectiveness.

 Face Change—For instance, many labor officials feel that AFL-CIO must undergo a face change if it is to be more effective.

"We've got to look and act more like the old CIO than like the AFL," one suggested, and it is a commonly held view.

So far, the federation—while it has housed Walter Reuther's United Auto Workers, the United Steelworkers, and other powerful unions of the old CIO—has generally followed the slow-moving, compromising, conservative policies of the AFL and its craft unions.

Those who come out of the CIO charge at the restraint and slow movement of the new and potentially more powerful AFL-CIO. They protest that it has surrendered its initiative, and that by failing—or refusing—to exercise its bulky strength it has "invited" attacks from the outside.

"If we had shown a solid front, nobody—employers or politicians—would have got this idea of ganging up on labor," an industrial union leader said in a San Francisco hotel lobby. "As it is, they aren't going to break us, but if we don't stiffen up they damn well might bend us."

This union leader, whose organization faces negotiations with major employers in 1960, obviously fears the probable effects of a "bending" by the steel union—a failure to win significant

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gains in the industrywide bargaining under way since May.

• Criticisms—AFL-CIO leaders, particularly Meany, are being criticized, more openly than in the past, for not taking stronger stands on issues. Particularly, there is a widening criticism of their "too little and too late" position in behalf of the striking Steelworkers. Back during the August meeting of the AFL-CIO executive council, a number of members urged an immediate and decisive demonstration of federation support for USW. The majority voted this down. They delayed the demonstration until late this week.

Similarly, there is criticism of AFL-CIO leaders and legislative lobbyists and particularly of Meany—for the federation's "weak and compromising" position against a reform law that puts the government deeper into union affairs than it has been in decades.

Largely, the criticisms are a product of frustration. There is no question of the fact that AFL-CIO leaders, from Meany down, have moved slowly and have compromised in many important areas. The federation might have been a stronger, more potent organization if they had not. Then again, today there might have been no organization at all if the leadership policies suggested by critics had been followed. AFL-CIO could have—probably would have—split.

• Product of Compromise—AFL-CIO

 Product of Compromise—AFL-CIO today is a product of compromise, of slow and deliberate actions. A body of dissimilar unions, of leaders with sharply divergent viewpoints, of rankand-file members with job and social conflicts, the AFL-CIO was born with serious problems.

Meany, an astute compromiser, did a masterful job in minimizing conflict. He temporized where he considered it necessary. He compromised differences. He saved the federation, time after time, from internal cracks that could have

split it apart. But, in doing so, he pleased pobody.

• Schisms Still—There are still schisms in the federation, although Meany told delegates that AFL-CIO has "weathered some of its worst storms," and that "the merger is working out well," considering its many problems and the pessimism that attended its birth.

Nevertheless, Meany acknowledged this week that "there are some people around here who . . . say, 'I wish to hell we never went into this merger'."

AFL-CIO's ability to get together to tighten its muscles—and apply them—is hampered by its schisms over jurisdictional claims of craft vs. industrial unions, over AFL-CIO foreign and domestic policies, over political action, and over other issues that lead to private—if not public—debate in the federation.

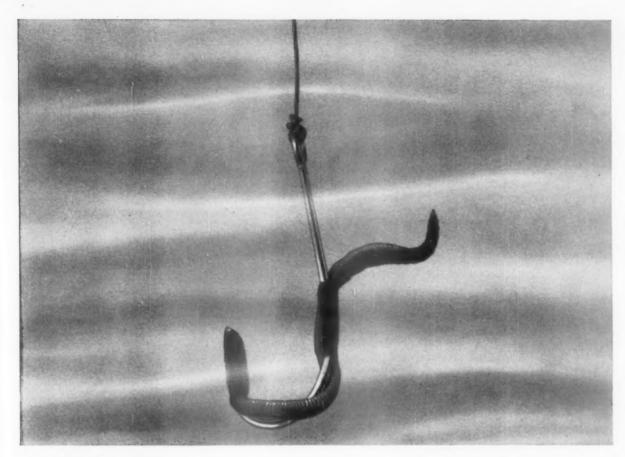
 Trouble Ahead—So, the AFL-CIO's hopes of mounting new and stronger campaigns, of regaining the initiative with employers and in political areas, are troubled hopes. They face very serious prospects of running into a stone wall built by the federation itself.

To show more vitality, to overcome the complaints of "flabby leadership," Meany and others who guide the federation would have to exercise the kind of centralized, autocratic leadership that characterized the old CIO.

Should that kind of leadership be exercised, craft unionists, jealous of their guaranteed autonomy and in almost total disagreement with the principles of the old CIO, would balk. Perhaps they would quit AFL-CIO-taking the AFL out of its structure.

Undoubtedly, AFL-CIO will survive, with much the same appearance that it now has. And though much will be said about tightening ranks and probably about a more militant use of labor muscles, there is a very great question whether the talks will result in vigorous new action.





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#### Beware the fallacy of the "PAYOFF PERIOD" concept

The basic flaw in the "Payoff Period" approach, commonly used in making decisions on the replacement of capital equipment, is that, when used, there is no payoff.

The arbitrary selection of a payoff period can be little short of absurd, as is shown by the following example.

#### Hypothesis

- (1) Management objective -2 year Payoff
- (2) Cost of New Equipment \$20,000
- (3) Annual Savings Now \$5,000
- (4) Projected Rise in Savings Each Year \$500

#### Decision

Postpone replacement for 10 years, when investment signal will come up.

Avoidable costs incurred by postponement — \$72,500

#### Secondary Result

Projected cost of equipment in 10 years - \$35,260. Postpone replacement for approximately 15 more years. Ad Infinitum.

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# In Business

#### Freight Forwarders Win ICC Approval For Volume Rates Based on Piggyback

Freight forwarders this week won Interstate Commerce Commission approval for volume rates based on piggyback service. The trucking industry may appeal to the

The fight began last year when railroads offered a New York-Chicago rate of \$451.50 for hauling two loaded truck trailers—supplied by the shipper—on a single flatcar. The freight forwarders immediately offered reduced rates on volumes from 10,000 lb. to 30,000 lb., with the forwarders supplying the trailers.

The truckers squawked, arguing that the volume rates plus piggyback put the forwarders in unfair competition with the truckers. At first, ICC did suspend a few of the cut rates, but the present ruling clearly reinstates them all.

#### 8-Million-Ton a Year Coal Pipeline May Link West Virginia to Seaboard

A pipeline to carry coal from West Virginia clear across Pennsylvania to utilities on the Eastern Seaboard is being "explored" by Texas Eastern Transmission Corp., big transporter of gas and petroleum products. Texas Eastern refuses to comment beyond confirming the existence of the plan, but trade sources fill in some of the details.

The pipeline would deliver about 8-million tons of coal a year, half of the combined needs of the four utilities said to be interested in the project: New York's Consolidated Edison, New Jersey's Public Service Electric & Gas Co., Philadelphia Electric, and Pennsylvania Power & Light.

Consolidation Coal Co., of Pittsburgh, whose 115-mi. coal pipeline in Ohio is the pioneer effort in the field (BW-Feb.16'57,p191), is expected to supply the know-how for the new line, and so earn itself a big guaranteed market.

#### Armstrong's Widow in Line for Royalties As Court Upholds FM Radio Patents

The FM radio patents of the late Maj. Edwin H. Armstrong were confirmed this week in New York federal court. If the higher courts uphold the verdict, Armstrong's widow stands to gain millions of dollars in royalties—the amount to be set by a special master.

Judge Edmund L. Palmieri's decision, against Emerson Radio & Phonograph Corp., climaxed years of battle by Armstrong to win legal recognition as the inventor of frequency modulation. Palmieri ruled that Emerson had violated Armstrong's 1933 patents for the six years before

the suit was filed in 1953. Six similar suits are pending against manufacturers and more may be filed.

Armstrong, who also invented the feedback circuit and the superheterodyne receiver, received more than \$4-million in FM royalties between 1938 and 1953. But the patents were challenged.

The inventor's first infringement suit, against RCA and National Broadcasting, was settled for about \$1-million in December, 1954. A month later, Armstrong plunged to his death from his penthouse apartment.

#### Free Flow of Natural Gas Predicted Across Border of U. S. and Canada

Rising demands for natural gas will eventually overcome governmental foot-dragging and bring a massive flow of the fuel across the U.S.-Canadian border, along with a continental approach to the problem.

That's the conclusion of a study prepared for the National Planning Assn. and the Private Planning Assn. of Canada by John Davis, of the British Columbia Electric Co.

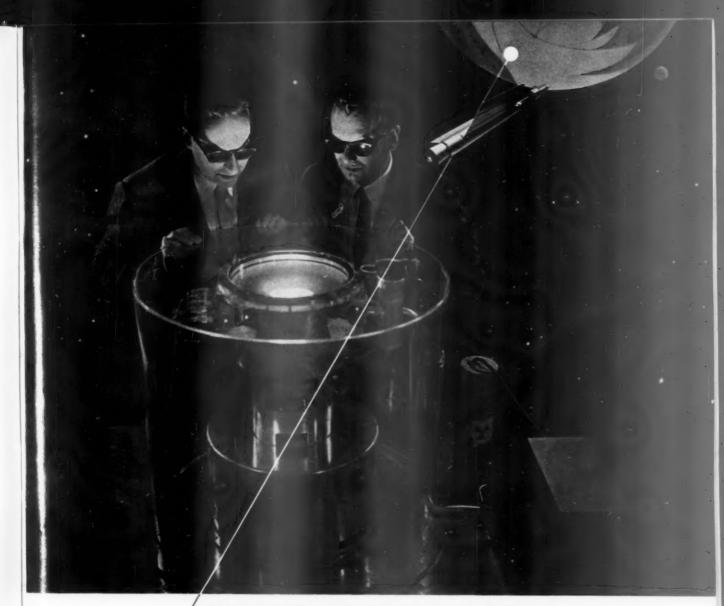
Up to now, the main obstacles to heavy cross-border traffic in natural gas have been the Federal Power Commission, which regards Canadian gas as a mere supplement to U.S. needs, and the Canadian government, which takes a hard line on export permits.

#### **Business Briefs**

The price of some linear polyethylenes was cut this week in what the trade considered a move to make them more competitive with conventional polyethylene and the lower-priced polystyrenes. The plastic is used mainly in molded houseware such as mixing bowls, toys, and moldings for automobiles. Phillips Chemical Co., a Phillips Petroleum subsidiary, chipped 3¢ off the going price of 35¢ per lb. in 20,000-lb. lots. W. R. Grace & Co. and Celanese Corp. of America followed with similar cuts, and other major producers are expected to tag along.

The long-heralded Douglas DC-8 jet transports made their commercial debut this week, in service for United Air Lines and Delta. Delta, a regional carrier concentrated mainly in the Southeast, began DC-8 jet service on the New York-Atlanta run. United started a daily New York-San Francisco service, hoping to regain traffic lost in the past six months to American Airlines and Trans World Airlines, which adopted Boeing 707s while United was waiting for its DC-8s.

The St. Louis-San Francisco Ry. was fined \$5,000 this week by a federal judge for having acquired control of the Central of Georgia Ry. without permission from the Interstate Commerce Commission. The Frisco, which holds roughly 72% of the Central's common stock and 65% of its preferred and had pleaded "no contest," promptly announced it would seek to put the stock in a voting trusteeship in compliance with an earlier ICC order.



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# PINCH PLASMA ENGINE NEW POWER FOR SPACE VEHICLES

"The experimental model of a new concept . . . a magnetic pinch plasma engine for interplanetary space travel is in operation at our laboratories," says Alfred Kunen (R) Project Engineer, Plasma Propulsion Project, shown with Milton Minneman of Republic's Scientific Research Staff, during actual operation of the engine. >>> Republic's plasma engine unique in that it utilizes intermingled positively and negatively charged particles in a single jet thrust, can operate on fuels more readily available than required for an ion engine, and attains greater thrust. By compressing these particles in an invisible cylindrical magnetic girdle and shooting plasma out the rear at tremendous velocities, sufficient thrust is generated to push a vehicle through the near-vacuum of outer space. >>> Republic is working on advanced plasma engine studies for the U. S. Navy Office of Naval Research and the U. S. Air Force Office of Scientific Research. >>>> Today's pinch plasma engine is but one of many bold concepts under development at Republic to create for the space world of tomorrow. It is part of Republic's multi-million dollar exploration into the realm of advanced aircraft, missiles and space travel.



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#### FRAGILE-HANDLE WITH ST. REGIS CARE

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Questions like these can lead research men to remarkable new concepts in packaging. For example: St. Regis' Product Development Engineers and Monsanto Chemical Company engineers have created a new light-weight protective material called Fome-Cor.



Enlarged view of box corner shows "sandwich" construction

Fome-Cor is really a "sandwich" of insulating, shock-absorbent foam plastic between two layers of water-resistant St. Regis kraft linerboard. These very special properties enable St. Regis cartons made of Fome-Cor to keep flowers, fruits and other perishables fresh and moist throughout shipping. But that's only one use; now Fome-Cor has scored an even greater industry "first".

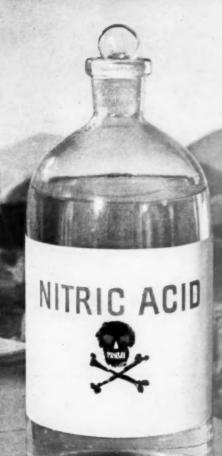
For the first time, a container made with paper has been approved for shipping glass-packed reagent nitric acid. Conventional corrugated paperboard will ignite if the acid comes in contact with it; Fome-Cor will not. The rugged Fome-Cor carton also provides more protection than containers previously used. Lighter, less bulky, Fome-Cor saves shipping costs, too. These are important developments for industry's many users of nitric acid and other hard-to-handle products.

And you can count on continuing improvements in packaging—as well as in plastics, paper and paper products—from St. Regis, a company that builds its future on service.

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## WASHINGTON OUTLOOK

WASHINGTON BUREAU SEPT. 19, 1959



Coolly skeptical. That's Washington's manner toward Khrushchev.

Pres. Eisenhower personally sets the tone, and it is deliberate. The President's greeting of the Soviet Premier, on the latter's arrival, was formal, correct, unsmiling. Nothing more, nothing less.

There are reasons.

One is to minimize propaganda values for the Soviet. It is generally acknowledged, even by our diplomats, that Khrushchev scored a propaganda triumph of sorts merely by being invited to the U.S.

The President's pokerface is symbolic. He wants neither the free world nor the people of the U.S. to be misled. This is the most graphic way to demonstrate that if the cold war is going to thaw ultimately, it has not started to thaw yet.

Mark the important days—Sept. 25, 26, 27. In Eisenhower's rural Maryland retreat, that is the time when the President and Khrushchev settle down to real conversation. If there's a chance for easing of international tensions, the signs may show up in those talks.

Future plans are based on the prospect there'll be neither a hot war nor disarmament.

A look at the broad outline of the new defense budget confirms this. Pentagon planners were busy drawing it up, even as Khrushchev arrived.

Here's what it looks like, for fiscal year 1961—the 12 months beginning next July 1.

The over-all defense spending figure will be about \$41-billion, the same as this fiscal year. This represents about half of all federal spending. It's a figure that Eisenhower and his advisers are agreed is big enough to keep up defenses without overstraining the budget and compounding financial problems.

Some change in procurement emphasis is coming.

The result: Production cuts and stretchouts will be needed in order to hold the spending rate at a stable level.

New aircraft orders will dip. For the first time since Korea, the military probably will wind up buying less than \$6-billion of new airplanes within a year. More aircraft procurement money will go for spare parts.

The Air Force may get nothing for new fighters, but probably will get funds for additional Boeing B-52 bombers and more transport planes.

Aircraft research and development faces a cut. Apparently, work will continue on North American Aviation's B-70 bomber (three times the speed of sound), but at a lesser rate than the Air Force would like. The tentative goal: production in 1962-63.

Part of the cut in aircraft research and development may be offset elsewhere, through such things as more spending for military basic research and for applied research in anti-submarine warfare techniques.

Missile spending will go up about \$1-billion, to a total of \$5-billion. This means a breakthrough to a new era. For the first time, missile buying will get to about the same level as aircraft buying.

#### WASHINGTON OUTLOOK (Continued)

WASHINGTON BUREAU SEPT. 19, 1959 The rise could be even steeper—if the Pentagon decides to O.K. production of the Army's Nike-Zeus system—an anti-ICBM weapon developed by Douglas Aircraft and Western Electric. Present odds are against a production order. Behind scenes the argument rages about Nike-Zeus' potential.

Labor isn't out of the legislative woodshed yet.

The next reform objective: bringing unions under anti-trust laws, making them subject to restraints comparable to those on business.

You'll hear lots of talk about this, but it's a long-range goal.

Don't expect any action in the next session of Congress. The 1960 session will be too short, and the majority of congressmen are leery about any further wrist-slapping of labor so soon after this year's reform law. But proponents aim to keep talking it up, hoping to create public sentiment for future action—perhaps in 1961 or 1962.

Big labor's political "thinkers" are angry at Democrats, especially Senate Leader Johnson of Texas. They say he refused to help Speaker Rayburn when such help was needed to stop the tough labor reform bill in the House. Labor's political money and other help will be doled out in the future not merely on a voting record, but on attitude as well. Its weight will still be on the Democratic side, even so.

In the backwash of the just-finished Congress (page 165):

Michigan Republicans eye Rep. Robert P. Griffin for the Senate. As co-author of the Griffin-Landrum labor bill, he gained national prominence this year. Griffin is receptive to the idea of a Senate run, but would face a tough fight. The Michigan Senate seat to be filled in 1960 is held by Democrat Pat McNamara, a one-time union official.

Sen. Clinton P. Anderson of New Mexico is a prime GOP target in 1960. More than any other individual, Democrat Anderson was responsible for blocking confirmation of Lewis Strauss as Commerce Secretary. Anderson's friends are saying \$200,000 of "Eastern money" is ready to go into a campaign against him. The figure is undoubtedly exaggerated, but the GOP national organization badly wants to beat Anderson.

The Republican master plan for the future is nearly ready.

Chmn. Charles H. Percy of the GOP Committee on Program & Progress will deliver to Eisenhower in early October a four-part report aimed at "pointing the Republican Party toward the future." The study was Eisenhower's idea. It will suggest guidelines for the campaign next year.

The four sections: economic opportunity and progress; national security and peace; human rights and needs; impact of science and technology.

Eisenhower plans a big and active role in the 1960 campaign. He expects to be almost as busy in behalf of the GOP presidential nominee as during his own campaign for reelection in 1956. That's the word National Chmn. Thruston Morton is carrying to party officials on his 30,000-mile fund-raising tour that began this week.

SPARKS NEW PRODUCT IDEA

CUTS MANUFACTURING

COSTS



Grace
presents the
High Density
Polyethylene
Profit
Parade

O Locky Join

Cheesecake

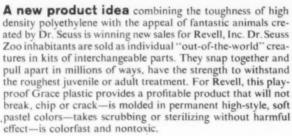


ADVANTAGE

ANSWERS TOUGH PACKAGING PROBLEM

#### **Profit Parade Products Demonstrate**







Exclusive selling advantages are built into this "Lifetime Tub" by Baby Bathinette Corporation. The manufacturer selected Grex high density polyethylene from Grace to produce a tub with features that really make sense to mothers. Grex gives it the toughness to far outlast competitive models—the rigidity and strength that permits lightness of weight—and a texture that is soft, pleasant and easy to clean. Virtually indestructible, the "Lifetime Tub" even has a useful life after baby outgrows it. Most important from a manufacturing standpoint, a product of such large size (30½″ x 6½″ x 19") still offers the economy of injection molding.

# GRACE High Density Polyethylene

The Only Plastic to Offer These Profit-Building Properties Rigid, strong, tough

Can be boiled or autoclaved

Retains its strength at freezing and below

Resists attack of most chemicals

Has excellent electrical properties

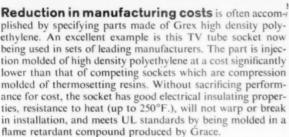
Outstanding moisture and gas barrier

Can be molded in any color and decorated

Available in flame retardant compounds

# Major Benefits of New Grace Plastic







Solution to a tough packaging problem has enabled Columbia Ice and Ice Cream Company to introduce a new type of light frozen cheese cake which offers a strong consumer appeal by retaining its original moisture and mouthwatering flavor. Heat sealed bags of high density polyethylene film were chosen for the packaging job since this plastic offers better moisture barrier properties than any other film of comparable cost. Tests show that the 2-mil film bag retains moisture at least three times more effectively than film of conventional polyethylene. It is crisp and rip-resistant for easier loading—colorfully printed for impact at point of sale.

#### Businessman's Guide to this Profit-Building Plastic

Are you developing a new product? Want to gain an edge over competition? Or hold the line against soaring production costs? Grex high density polyethylene could help you do the job better than any other material. The products displayed in this "profit parade" prove the point.

Take a good look at these four examples of Grex at work building profits. See how this one plastic is used to spark a new product idea, create exclusive consumer selling advantages, bring costs down and solve a packaging problem. Grex is accomplishing similar objectives for literally hundreds of other products in widely diverse fields. Yet the important fact about this Grace plastic is that its marketing and manufacturing potential is still wide open. We invite you to exploit it.

The Grex applications shown here demonstrate a combination of remarkable properties. Check them with your own products in mind. Then consider that Grex is a high grade plastic which can be used in economical fabrication techniques. Little wonder that the growth rate of high density polyethylene is the fastest ever witnessed in the plastics industry.

Regardless of whether you are now a heavy user of plastics or have steered away from these materials in the past, high density polyethylene from Grace can contribute to your future growth. With all the resources of W. R. Grace & Co. behind us, we are in a unique position to serve you. Just turn this page for an idea of the services the Grace Polymer Chemicals Division has to offer. We have the production facilities, technical know-how and creative background you need to realize the full profit potential of Grex in your products. On top of this we sincerely want to help you—and we're easy to do business with.

Try us and see.

# Grace Service Puts Your Product in the High Density Polyethylene Profit Parade

High density polyethylene is geared to help you meet today's manufacturing and marketing problems. If you want to cash in on the promise of this new plastic by improving an existing product, cutting costs or developing something entirely new—it pays to call in the *specialists* on high density polyethylene. Just look what Grace Service has to offer.



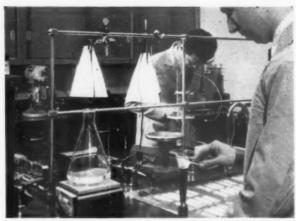
#### LARGE-SCALE PRODUCTION FACILITIES

The Grace Polymer plant at Baton Rouge, Louisiana is the newest and one of the largest of all W. R. Grace & Co. chemical plants. It is rated at an annual capacity of 50 million pounds of resin to assure you a uniform supply of Grex high density polyethylene in the quantities you require.



#### MERCHANDISING SERVICES

The Grace Merchandising Services Department is vitally interested in helping you sell your customers—works continually with manufacturers of consumer goods in areas of labelling, market development, sales, distribution, advertising, promotion and publicity.



#### PIONEERING POLYMER RESEARCH

From this creative research and development group—often working with the W. R. Grace & Co. Washington Research Center—have come important breakthroughs in polyethylene production and improved resins. Grace customers are always first to benefit from the results of this research program.



#### TECHNICAL SERVICE LABORATORIES

Here is where Grace meets and solves practical technical problems relating to fabrication, design and performance of high density polyethylene products. Production-type machines make it possible to duplicate actual plant operations, and modern laboratories are fully equipped for physical, chemical and electric testing.



#### YOUR GRACE TECHNICAL REPRESENTATIVE

He's a technical expert on high density polyethylene and a salesman. The needs, problems and ideas of his customers are foremost in his mind. He's in a position to call in production, research, technical service and merchandising teams to give you the help you need.

W.R. GRACE & CO.

CLIFTON, NEW JERSEY



# Stalemate in the Coal Fields

• The sometimes violent strike by UMW in eastern Kentucky coal fields has settled down to a rather orderly and peaceful affair.

Nonunion mines are now operating full blast and UMW has almost completely withdrawn its picket lines.

But the union, busy defending itself in damage suits, insists it won't give up its fight against the small mines.

Six months ago, the United Mine Workers cracked down on an estimated 2,600 mine operators in eastern Kentucky who weren't meeting union contract terms. John L. Lewis thundered from Washington that they would have to agree to meet UMW wages and conditions-or shut down.

Today, UMW is, technically, still pressing a strike that started March 9 after the Lewis ultimatum, and Lewis hasn't modified one whit the terms he laid down. But the strike is now one in name only. UMW picket lines are almost all gone. Nonunion mines and tipples are running full blast.

• Frustration-UMW is hamstrung and frustrated by federal injunctions. It is facing \$17-million in civil damage suits based on strike disorders, and has agreed to settle another action for a reported \$106,000 to the Louisville & Nashville RR. And it is encountering more defiance from operators than it has run into in many years, adverse public opinion, and, most importantly, a demand by miners for work at any price.

"He set out to bust us and we busted him," a nonunion operator in Letcher

County said last week

That's not true. The Lewis-directed campaign by UMW's District 30 to gobble up nonunion operations in seven Kentucky counties bogged down quickly; what once might have been a comparatively easy before-breakfast foray stirred troubles aplenty for the union. But the union is far from "busted" in the area.

· Big Operators Sign-The big operations run by U.S. Steel, Bethlehem Steel, Consolidation Coal, Hannah Coal, the Southeast Coal Co., and other large companies signed UMW contracts last winter without a protest. They are meeting its terms: a \$24.25a-day wage, a 40¢-a-ton royalty on coal

mined, and assorted fringe benefits.

There are 126 "big" mines in the area, with sufficient production to rate their own railroad sidings for loading coal. These "rail mines" employed more than 12,000 miners and produced 21-million tons of coal in 1958. Almost all are now under UMW contract. • Troublesome "Truck Mines"-Its troubles are coming from the little operators in the Kentucky mountains. Individually, they count for little in the industry. Collectively, they are important. The 2,500 "little" mines are too small to have rail service. The coal they produce is loaded into trucks and taken to tipples where it is sold and dumped into rail cars.

The "truck mines" employed more than 18,000 men in 1958 and produced 13.6-million tons of coal. Many are three- or four-man operations. They are marginal mines. Obviously they can't compete-on even terms-with the bigger and better ones with modern machinery to dig, move, wash, sort, and load coal. To compete, they duck UMW. They offer miners \$6 to \$18 a day instead of \$24.25-and they get all the miners they can use.

The small operators do not pay the UMW welfare-fund royalty of 40¢ a ton. Many do not give paid vacations or other fringe benefits. Some don't bother to spend the large sums required for the elaborate safety standards UMW insists on.

· Difference of Opinion-The "truck mine" employers contend that they cannot meet UMW contract terms; they would be forced out of business. UMW retorts that many of the small-mine operators make tidy profits of \$30,000 to \$50,000 operating as they do. It says that most could comply with the union contract and still come out comfortably in the black. Those that can't shouldn't be in business, the union's spokesmen

But they are in business and, right now, they are surviving union pressures with few apparent problems. However, UMW claims that it has made "some progress" in getting the small operations to sign with it; the union has agreements with 447 of the 2,500 in the area, including almost all in the Harlan County coal fields-where "rail mine" influences are the strongest.

· Desperate Job Seekers-The union is hampered in extending these gains by the large number of jobless miners.

This is the group UMW said it wanted to help when it tackled "profiteering nonunion operators" in March. It found that the miners in Letcher and Perry Counties-old UMW strongholds-and in the other mountain counties felt the \$10 to \$12 a day most were getting was better than nothing. They went to war against UMW, literally.

They took the initiative and demonstrated they would shoot, if necessary,

to keep working.

UMW contends that the nonunion forces were armed by their employers, and "primed to make trouble.

· Determined Unionists-On the other side, the union forces were just as strong and determined, at first. To miners operating under UMW terms, the nonunion substandard operations were a threat to jobs and established wage levels. Many were veterans of the coal field battles of the 1930s that helped build a powerful UMW. They were determined to "stamp out these scab operations before they break us first," as one Bethlehem Steel miner put it. He joined hundreds of UMW "loyalists" on picket lines that were often violent.

Tipples were blasted and burned. Truckloads of coal were dumped. Property destruction was accompanied by violence against men, too-union and nonunion. Three men died-a nonunion mine operator, a nonunion truck driver,

and a union picket.

When state and county law enforcement officers were unable to keep order, the National Guard was called out. It restored a truce, later demobilized.

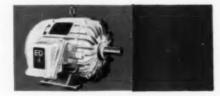
· Limited Damage-Although there has been property damage, actually only a very small part of the total plant and equipment of the nonunion group of operators has been affected. If the \$17-million in suits filed suggests that the coal fields are full of ruined mines and tipples, the suggestion is wrong.

Moreover, UMW has not vet been linked directly with any major incident of property damage, despite the implied responsibility in the suits.

As a result of the disorders, many of the nonunion workers and union men carry arms. It's said that nobody in the strike area is ever very far from a gun, these days. "I would feel like I was out naked," one man said.

· Friendly Enemies-Even so, neither side seems to fear an outbreak of trouble now that nonunion men can work

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ELECTRO DYNAMIC BAYONNE, NEW JERBEY
A DIVISION OF GENERAL DYNAMICS



UMW BOSS John L. Lewis is just as determined to sign up nonunion mines.

without fighting pickets. They're not so hostile as the arms suggest. The men—not their leaders—get together to drink beer in the bars. Sometimes the kidding around leads to a fist fight, but now that's about all.

What's going to happen with the nonunion mines operating and the union hanging on, refusing to quit its strike? The truck mine employers, angry more than concerned about the 447 defections to UMW, say they aren't going to give in and sign a contract—even if UMW gives its word that wage terms won't be enforced in the truck mines. The operators contend that this has been done in other years—and with some of the small mines that have signed "standard" contracts.

• No Alternative—UMW says that it had no alternative but to strike and it "certainly can't and won't pull out now," even though it hasn't been able to shut down the small operations—the "dog hole" mines, as it terms them. The union denies that it is allowing any mines under its contract to pay less than the full \$24.25 scale wage. It concedes that some might not be living up to contract terms, but a district spokesman said the unions "don't know about it, officially, if they are."

Meanwhile, UMW is trying hard to keep its "strike" orderly. It appears to be more concerned now about legal fighting ahead than about the poor progress in its contract campaign.

• Damage Suits—The \$17-million in suits coming up in courts are for triple damages as allowed under legal actions that allege that property damages caused production losses. Courts do not ordinarily award the full amount asked. Even so, the union faces a possibility of settlements that could be heavy despite the UMW's close to \$40-million treasury.



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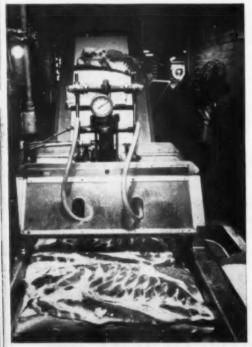


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# Coping With Mechanization



ELECTRIC CUTTER and moving assembly have outmoded the meat cleaver as packers modernize their plants.



INJECTIONS of curing pickle to cure bacon eliminate the hand-rubbing process that was tedious, time-consuming.

Armour sets up "automation fund" to help meat workers who lose their jobs to machines, a growing industry problem.

Improved methods and machinery in the meatpacking industry (pictures) now make it easy to produce as much as in 1955 with considerably fewer workers. Through "significant changes" —increased mechanization—the industry has cut its work-force needs by 36,000 over a four-year period.

This month, Armour & Co. and the two major unions with which it deals, the United Packinghouse Workers and Amalgamated Meat Cutters & Butcher Workmen, took steps to ease the serious problems of workers whose jobs are wiped out by modernization.

• Automation Fund—At the company's suggestion, they set up as part of their new labor agreements a two-year "automation fund" to be financed by Armour, at a cost of a penny for every hundredweight of meat products shipped. This fund, which has a \$500,000 limit, is to be used to "cushion whatever unemployment may arise through the introduction of automation" in meatpacking.

Specifically, under the Armour contracts, the fund will be used for:

• Studying the problems arising from the modernization program, through a committee of nine-four members from management, four from the unions, and an impartial chairman.

 Developing solutions—possibly through retaining employees to perform new and changed jobs or by relocating them in plants where "job opportunities remain or are increasing."

 Considering "any other methods that might be employed to promote continued employment opportunities for those affected."

The parties agreed, however, that the fund would not be tapped to increase severance pay benefits.

 The Problem—Meatpacking unions, along with many others, have been seriously concerned over the impact mechanized and automated processes and equipment have had on jobs.

When contract negotiations got under way this year, the UPW's Research Dept. said that in 1955 nearly 200,000 workers were employed in the meatpacking industry, but that by June, 1959, under 164,000 were working.

The union noted that between June, 1958, and this June, employment dropped by 3,700 or 2.2% in the face of 7% increase in meat production.

The UPW called for "job security" provisions in contracts with major pack-

ers, including a shorter work week to spread jobs. The Amalgamated presented similar proposals in simultaneous, coordinated bargaining sessions.

For one, Armour did not dispute the drop in number of workers employed —or needed. It had a peak 60,000 on its payroll five years ago. Now it is down to 40,000. But, it said, not all of this drop was due to automation. Some obsolete plants were closed.

 Changes—Nevertheless, there is no questioning the impact on jobs caused by the industry's changes in methods of production, processing, marketing, and distribution. In Armour's plants:

 A beef carcass is no longer laid on its back in the killing room, to be skinned and cut; an overhead rail system permits the carcass to be suspended and worked on more efficiently.

In the "rail dressing" process, workers now use pneumatic, whirring mechanical knives.

 Conveyor systems move work from section to section, cutting down on inside-plant trucking operations.

• The long, tedious "hand process" in curing bacon has been eliminated. Before, bacon or pork products were cured by rubbing the slabs with salt and other curing ingredients by hand and putting them into barrels. Now, bacon and pork products are cured by needle injections—the "pickle" is forced into the meat under pressure.

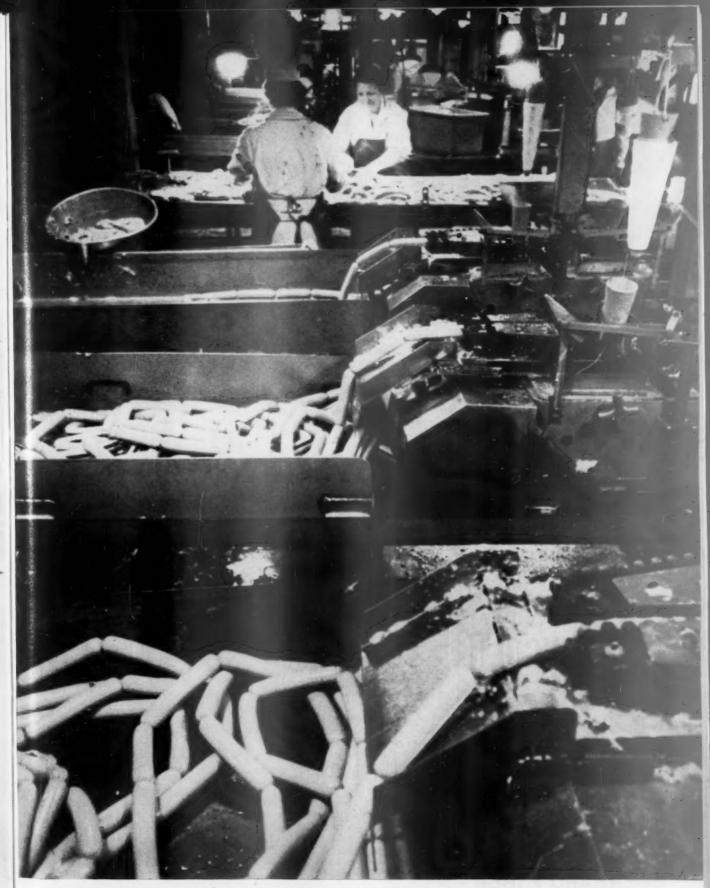
 The injection method also has eliminated the old "overhauling" process for curing hams; they no longer have to be packed in vats filled with brine, then changed by hand to a second vat for even curing.

 Automatic machines now slice, weigh, and package bacon, or stuff and link frankfurters or pork sausage.

These changes and many others have reduced manpower requirements. In the bacon and sausage operations, for example, seven workers are needed by Armour now where nine were formerly employed.

• Effects—The reduced needs are reflected in the steady drops in meatpacking employment since 1955. According to the UPW and Amalgamated, "distress and hardship" are commonplace in parts of Chicago and other slaughtering and processing centers.

Many of the younger workers who were displaced got other jobs as employment in the Chicago stockyards operations slipped from 22,000 to fewer than 8,000 in six years. Many older workers and a large percentage of Negro workers weren't able to find new work. They collected severance from packers and then went on unemployment compensation rolls. Many are still there, listed



CONTINUOUS FLOW sausage stuffing (foreground) contrasts sharply with old method (background) by cutting out five manual operations.

BUSINESS WEEK • Sept. 19, 1959

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as "unemployable" because of race, age, and lack of needed skills.

The unions' demands for a shorter work week, a guaranteed wage, and other unemployment panaceas introduced in the bargaining this year sought help for these former packinghouse workers and others likely to be laid off.

• Armour Plan—None of the big packers was willing to go along with the costly union proposals. When strike threats began building up, Armour placed its "automation fund" suggestion on the bargaining tables. After some hesitance at the start—and considerable debate—the UPW and Amalgamated accepted it.

Armour and the UPW and Amalgamated had agreed before, from time to time, on other devices to "soften the effects of some . . . changes where employees are laid off or terminated." A key one of these has been the severance pay plan under which Armour has paid out, so far, some \$10-million. The present agreement, according to the parties, is an extension of past efforts to solve a mutual problem.

The nine-man committee (only the chairman will be paid from the automation fund) is to report back to the company and unions with final recommendations "no later than six months

prior to the termination of the contract" in September, 1961. The recommendations won't be binding, but are for the parties' "further consideration" in the next contract bargaining.

The committee is also authorized to employ any technicians needed for its work. One idea under consideration suggests placing a training director in each plant whose job, under committee direction, will be to help employees develop new skills.

The company and unions describe their plan as "a substantially new approach to solving the problems that arise from automation." Because it is, they concede that "a lot of skullwork" will have to be done in carrying it out; procedural points still have to be agreed on the purposes and goals must be outlined more specifically.

 Ayes and Nays—Once the unions signed with Armour on terms that included the automation fund, they placed the "pattern" before other packers. Seven settled with the UPW and Amalgamated on the same terms. Two major employers balked.

Swift & Co. and Wilson & Co. resisted the automation fund plan. Wilson offered an extra 2¢ in pay in 1959 and 2¢ more in 1960 in lieu of the fund.

#### Job Agencies Protest State Service

National association accuses state-run agencies of encroachment in field of white-collar placements.

The National Assn. of Employment Agencies has launched a "hot brushfire" war against state-run public employment agencies. Behind this declaration of hostilities is a growing fear among private agency operators of government encroachment in white-collar placements (BW-Nov.1'58,p68).

The NAEA has 300 members, who place mostly clerical and secretarial help. The association claims its members are "little businessmen" who are slowly but surely going out of business in states where public agencies are actively recruiting.

The NAEA complains that state agencies are "using unlimited federal funds to go into new fields which historically belonged to private agencies."

• Steady Increase—Although no one knows exactly how many placements—private or public—are made each year, U.S. Employment Security Office figures show a steady increase by the state agencies in the placement of white-collar personnel, a field in which the private agencies believe they have a prior claim. State agencies placed 84,000 white-collar and professional job seek-

ers in fiscal 1951; 110,000 in 1956;

128,000 in 1958; 143,000 from

May, 1958, through April of this year.
This expansion has NAEA worried.
The attempts by various states to regu-

The attempts by various states to regulate the fees private agencies can charge are another cause for concern. California recently attempted to limit the fee to 10% of the first month's salary. According to a NAEA spokesman, Robert Graebner, fees "normally run 40%-50% of one-month's salary." He savs profits are generally no higher than in any other service industry. "But if you set a 10% fee," he says, "you put the private agency out of business."

• Ring View—Graebner and the NAEA would like to see the activities of the public agencies in white-collar placement sharply curtailed. Not all private agencies agree. Grace Cook, who heads a rival trade association, National Employment, with 500 members, is more philosophical. She says: "Let the private agency tend to its own business and do a better job. It will always have a place in a free enterprise system."

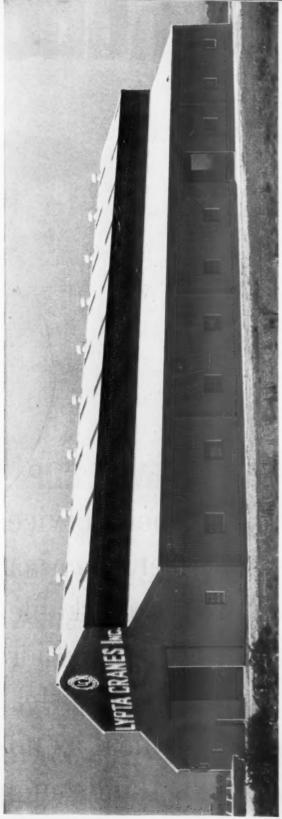
Of some 4,400 private placement agencies in this country, about 1,500 handle managerial, clerical, and sales personnel. About 75% are in the industrial districts of New York, Illinois, and California.

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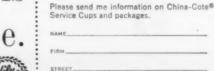
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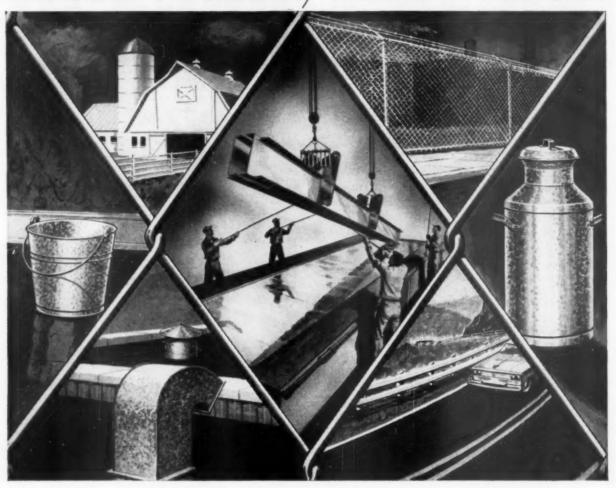
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# Monitors, Hoffa All on Spot

While monitors appointed to oversee Teamsters are calling for Hoffa's removal from office, union members are challenging the right of two monitors to serve.

There was an air of accomplishment in Washington this week as Congress adjourned, an air of old things coming to an end and of new things beginning.

The Senate Select Committee on Improper Activities in the Labor or Management Field went about the business of trimming its staff and winding up its affairs, after 2½ years. Counsel Robert Kennedy resigned, but will work on the committee's final report.

And Labor Secy. James P. Mitchell set up a new bureau to administer the new labor-reform law that, largely, is the fruit of the investigation by the McClellan committee (page 64).

Yet the protagonist during much of the McClellan committee probe-James Riddle Hoffa-is still an item of unfinished business.

 Hoffa's Status—Across town, out of the hands of either Congress or the executive branch, the issue of Hoffa's Teamster presidency moved into another critical phase.

The Board of Monitors, set up by Federal Judge F. Dickinson Letts in 1958 to police the Teamsters, filed with Letts an "interim report" on Hoffa. They charge him, in effect, with the misuse of union funds in violation of the consent decree by which Hoffa was allowed to take over the union as provisional president under the monitorship.

The monitors ask Judge Letts to remove Hoffa as president, if the decree has been in fact violated.

There is nothing new in the charges made by the monitors this week. All relate to the handling of Teamster money in three banks—detailed in hearings before the McClellan committee.

In fact, though the monitors' action could conceivably lead to Hoffa's ouster, few observers predict any such drastic result. They see the move as just one more development in the feud that has gone on between the monitors and Hoffa ever since the board was set up.

• Monitors Challenged—In part, the limited importance seen in the action rests on the fact that the incidents reported by the monitors occurred before the consent decree was entered. In addition, there is a growing legal snarl entangling the experiment with monitors to police Hoffa's union.

In one of the many suits involving the monitors, Hoffa is going before the U. S. Supreme Court later this fall to challenge the broad powers bestowed on the monitors by lower courts. And, just a few weeks ago, another suit by Teamsters rank-and-file members went before Judge Letts, seeking removal of Chmn. Matrin F. O'Donoghue and member Lawrence T. Smith from the Board of Monitors. The charge-similar to one that resulted in the resignation of former monitor Godfrey P. Schmidt-is that O'Donoghue, as legal counsel for the Plumbers' Union, and Smith, as counsel for employers who deal with the Teamsters, are in a conflict of interest.

Daniel B. Maher, Teamsters' nominee on the three-man board of monitors, did not sign the report that was submitted this week to Judge Letts.

 Against Hoffa—The principal charge made by the monitors is that Hoffa, as Teamsters president and as president of his home local, 299 in Detroit, allowed substantial sums of money to be transferred from the local and deposited in three banks without drawing any interest.

Included in these transactions is ansfer of \$500,000 of the local's funds to the Florida National Bank of Orlando, to serve as security for a \$500,000 loan by the bank to Sun Valley, Inc. Hoffa had an option to buy a substantial percentage of the shares of Sun Valley, a Florida real estate development.

The monitors also charge that the head of Sun Valley withdrew \$25,000 from the bank and paid it to Hoffa in cash, as an "interest-free loan."

Sun Valley subsequently repaid \$100,000 of its bank loan, but is now in bankruptcy and in default on \$356,000 of the loan. Though Hoffa recently tried to remove the local's \$400,000 from the Florida bank—at the suggestion of the monitors—the bank has refused; Hoffa is now suing to force its return.

The other items in the monitor charges involve deposit of \$50,000 in a New York bank and \$125,000 in an Indianapolis bank, both without interest. Hoffa withdrew the \$125,000 last month, and it is now drawing interest in a Detroit bank. The New York account was closed a year ago.

The monitors argue that merely allowing any of this money to remain in banks after the decree, without drawing interest, is a violation. In addition, they charge that Hoffa's option on Sun Valley stock—which he continued to hold about 10 months after the decree—is a violation.

# In Labor

#### Labor Dept. Implements Reform Law; First Cost Set at \$2.5-Million

The Labor Dept. is moving quickly to put the new reform law into action. A new Bureau of Labor-Management Reports has already been organized to receive the reports required from both sides on financial arrangements and other activities.

Unions will be told this week how to file trusteeship reports, which are due within 30 days, and a quarter of a million forms are being printed for reporting constitutions and by-laws. Bulletins spelling out the provisions of the new law, officially called the Labor-Management Reporting & Disclosure Act of 1959, are being prepared for release to management and union officials.

Congress is expected to honor budget estimates of \$2.5-million for "an initial indefinite period" in the current fiscal year as a result of the additional work put on the Labor Dept. and the National Labor Relations Board by the new act. The Labor Dept. will get \$2-million. It estimates that the reporting requirements will cover some 55,000 union organizations, possibly a half-million union officers and employees, more than 100,000 employers and an unknown number of consultants.

Labor Secy. James P. Mitchell said trades associations and the AFL-CIO will be consulted on details of the new law as it affects them individually.

# It's Legal Now—Unions in Wisconsin Can Make Political Contributions

A bill repealing Wisconsin's controversial Catlin Act, which prohibited labor unions from making political contributions, was signed into law last week by Democratic Gov. Gaylord Nelson.

The Republicans passed the law in 1955. Its repeal has since been a major plank in the Democratic Party platform. An attempt to repeal it failed in the 1957 Legislature.

The Catlin Act was an amendment to a corrupt practices law of 1911, aimed at keeping election campaigns fair.

#### Supervisory Pilots and UAW Men Fined By Their Unions for Rules Violations

The Air Line Pilots Assn. last week imposed a \$5,000 fine on 17 supervisory pilots for having flown jet planes without union permission. The 17 pilots, says ALPA, must pay the fines—totaling \$85,000—or face expulsion.

The union charged that by flying jets in revenue service, the Pan American supervisory pilots had taken jobs away from regular crew members and acted "to circumvent, or defeat or interfere with collective bargaining." The union previously O.K.'d supervisory employees taking training in the operation and ferrying of jets. The pilots angered the union by flying Pan American jets in regular service before negotiations settled contract terms and wages.

ALPA has no means of forcing payment of the levy, except by expulsion. However, the contract does not call for a closed shop and the chances are the 17 pilots will resign, keep on flying—but without a union card.

Fines totaling \$15,395 were imposed last week on 172 members of the United Auto Workers found guilty of crossing a picket line during a 77-day strike against Allis-Chalmers Mfg. Co., West Allis, Wis., earlier this year.

The fines ranging from \$10 to \$100, were levied after membership of the Allis-Chalmers UAW local union approved by secret ballot the findings of two trial committees. The committees found the unionists guilty of "conduct unbecoming a union member." The strike, it said, was called in compliance with the provisions of the UAW constitution.

The workers will appeal the decision, according to their attorneys, first, to the UAW executive board, and if it upholds the local union, ultimately to the UAW Public Review Board.

Meanwhile, the company and a number of its employees have filed complaints against the union with the Wisconsin Employment Relations Board. They contend that it is an unfair labor practice under state law to threaten to fine a union member to prevent him from crossing a picket line.

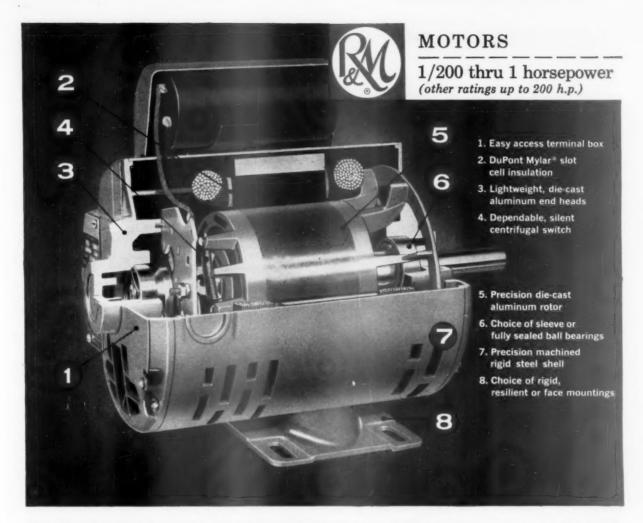
In a similar case involving the Allen-Bradley Co. of Milwaukee, a majority of the board ruled that to fine a union member for crossing a picket line during a strike was an unfair labor practice.

#### Shirtless Strikers Shirted As Management Wins Strike

Employees of the Peavey Paper Mills, in Ladysmith, Wis., struck Aug. 19 for the right to work without shirts. This week they are back on the job—with shirts on.

The dispute started when a worker in the pulp room was burned, and the foreman ordered shirts worn in the interest of safety. About the same time, converting room workers were ordered to wear shirts because of the frequent presence of women and visitors. Later, the order was made plantwide, even applying to crews working in temperatures over 100F. All of the workers walked out in protest.

The company held firm on its right to set work conditions. After a strike that cost workers \$2,000 a day, the group agreed to return on management's terms, including the wearing of shirts and the firing of three ringleaders of the "wildcat" walkout.



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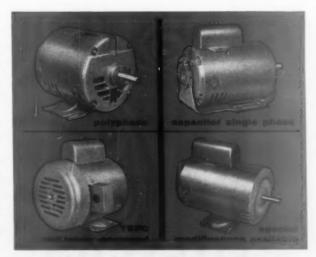
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# Hot Times Near Absolute Zero

Swift research progress has brought industry a practical new tool in cryogenics—the study of how materials act at extreme cold.

For rockets and missiles, it has put liquid hydrogen right in the middle of the fuel race, by developing feasible insulating materials and containers.

Chemists envision all sorts of new synthetics; electronic researchers find a super-conductor that hopes to outmode transistors.

Cryogenics—the science that deals with the behavior of materials at temperatures close to absolute zero—has become a practical working tool for industry. That fact, long suspected by researchers in many fields, became evident last week at the Fifth National Cryogenic Engineering Conference, at the University of California.

It was only two or three years ago that scientists felt the first spark of enthusiasm for the commercial applications of low temperature phenomena (BW–Sep.29'56,p152). Today, they're already deep in the practical problems of specific applications. Almost every major company in the fields of aircraft, electronics, metals, atomic energy, rockets, and missiles has its own low temperature lab. Major independent laboratorics generally have large and well-manned cryogenic facilities. The government, an early backer of research in this field, is said to have tripled its allocations for cryogenic work in the past year.

• Rocketry—Most of the excitement centers around cryogenic techniques in the use of liquid hydrogen as a fuel for rockets and missiles. Hydrogen in its liquid state has long been accepted as the ideal chemical fuel. It burns easily, with usually harmless byproducts. And—because of the peculiar characteristics of rocket propulsion—its low atomic weight gives it the greatest thrust per pound of any known chemical fuel. But in the early days, its difficulties left designers resigned to less potent fuels (BW—Oct.19'57,p66). This attitude has changed; just in the past few days:

Air Products, Inc., began production without a hitch at the world's largest liquid hydrogen plant, at West Palm Beach, just 21 days after its gas generators were set up.

 A. D. Little, Inc., announced an 8-oz. refrigerator that increases the tracking range of infrared detectors in the earth's atmosphere by 10 to 100 times.

Delegates to the cryogenic conference were shown an insulating material, developed for low temperature research, that is only ½ in. thick yet may someday permit the transportation for great distances of fully fueled liquid-fuel missiles without loss of hydrogen by evaporation.

All this progress in cryogenics has major commerical implications. And for the military, it means that in the years ahead hydrogen will be a prime candidate for rocket propulsion, along with souped-up solid fuels and systems such as ion propulsion. One observer says, "It was probably the rapid progress in cryogenics, more than any other factor, that rang down the curtain on the diborane fuel program last month." (BW—Aug.15'59,p36).

• The Speed-Up-Three years ago, it was expected to take until the middle 1960s to solve such problems as the handling of liquid hydrogen at temperatures -220C and below. But already, this has been accomplished. University of California researchers have transported liquid hydrogen in 5,500-liter batches for 400 mi. General Electric has developed super Dewar flasks to hold such liquid gases as hydrogen without evaporation. Aerojet-General is in the process of working out the last details of a valve to meter fuels reliably at temperatures close to absolute zero.

The California conference heard cryogenic results reported by an impressive list of delegates from industry, education, and the government. Among them were representatives from: Lawrence Radiation Laboratory, Air Products, A. D. Little, Pratt & Whitney, The Linde Co., Space Technology Labs, Bell Aircraft, Los Alamos, Aerojet-General, NASA, General Electric, Owens Corning, National Research Corp.,

Sperry Gyroscope, Hydrocarbon Research, Beech Aircraft, Dynamics Research, Boeing, Westinghouse, Convair, The Martin Co., Kaiser Aluminum, Philips Research Laboratories, and the National Bureau of Standards.

• Free Radicals—Cryogenic progress has implications for an even broader list of companies. Thus the chemical industry is finding it an ideal tool for doing spectroscopic studies of free radicals at extremely low temperatures. This work on frozen free radicals—molecular fragments that usually exist only momentarily in flames or hot gases—should eventually lead to basic information on the arrangement and reactions of atoms and molecules in solids, and on the forces that act on them.

This sort of research—falling under the general heading of solid state physics—should someday make possible the synthesis of materials with properties only vaguely foreshadowed today. Among the possibilities are permanent magnets, nonlubricated bearings, and metals many times stronger than the best present carbon steels.

Well before these fancy results, cryogenic research should bring such products as refrigerators with no moving parts and containers in which natural gas can be shipped cheaply and simply, • Electronic Components—The electrical industry is notably excited, espe-

trical industry is notably excited, especially over the possibility of practical application of the long-known fact that at very low temperatures certain insulating materials can conduct heat vastly more readily than metals can. Now that extremely low temperatures can be contained for long periods, the principle is usable; super-conductive electronic components, half the size of a pin, are being devised to replace vacuum tubes and transistors in everything from radios to computers. In computers, early models of such components have already been clocked at switching speeds 50 times faster than magnetic cores.

New power applications have also been opened up by the recent cryogenic research work. For the nuclear propelled ship Savannah, cryogenic engineers have designed a gas purification bed in which 2 lb. of charcoal can do a job that formerly took 2,000 lb. by refrigerating the bed to a point so cold that it is possible to use the energy of almost all the combustion byproducts, which would be lost in normal combustion.

Several companies are said to be seeking a somewhat similar system to use in atomic power plants.

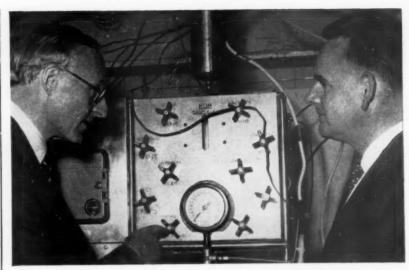
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BRITISH SCIENTISTS Francis T. Bacon (left) and H. H. Chambers inspect Bacon's Hydrox fuel cell, which on a diet of hydrogen and oxygen can drive a lift truck.

### Fuel Cells Nearer Market

The compact packages that produce electricity directly from a chemical reaction may be ready for military use as early as next year—and for civilian applications perhaps by 1962.

Of all the sources of energy under exploration by the world's scientists, one of the most exciting is the fuel cell, which produces electrical power directly through a chemical reaction, without heat, smoke, or noise. Scores of company laboratories around the U.S. are diligently developing the fuel cell, in various forms, with the thought that someday it might be a cheap and compact successor to power plants such as the internal combustion engine (BW–Jun.27'59,p+5).

Last week, two scientists in the forefront of British research in fuel cells (picture), brought this country an estimate of when they might be ready for use. Francis T. Bacon and H. H. Chambers, arriving for an American Chemical Society meeting in Atlantic City, said fuel cells might be at work in military applications as early as next year—but that it would be 1962 or 1963 before they were developed enough to wear civilian clothes.

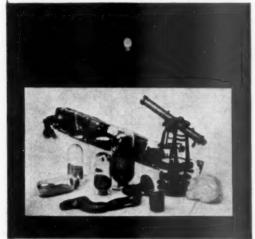
Parents and Children—Bacon is identified with the Hydrox fuel cell, Chambers with the Carbox cell. The Hydrox cell draws energy from the chemical reaction of hydrogen and oxygen combining; in the Carbox cell, carbonaceous fuels—vaporized kerosene, say, or a mixture of hydrogen and carbon monoxide—are wedded to oxygen found in the air.

Already Bacon has successfully built a 40-cell Hydrox unit that can drive a fork-lift truck, do electrical welding, and perform various jobs around the laboratory. One of Bacon's first cells consumes only about 1/8 lb. of hydrogen per kwh, and develops a rated power of 5 kw. A much huskier cell would be needed to drive a modern auto, but researchers in both Britain and the U.S. are already putting together 10-kw. versions of the Hydrox. For the most part, says Bacon, only engineering problems remain—and time and effort should solve them.

Chambers' Carbox fuel cell isn't so far along in development as the Hydrox, but it, too, looks extremely promising. Its most shining merits are compactness and versatility. Because it absorbs oxygen directly from the air, it doesn't need to carry a supply of oxygen, and its workings are simple. One such cell developed by Universal Winding Co. has run continuously for more than 500 hours without maintenance.

• Mechanics—Bacon gave U.S. researchers a firsthand account of how his Hydrox cell works. Fundamentally, he explained, it's the exact opposite in principle to the electrolysis of water—the splitting apart of water into its atomic fragments. The Hydrox cell contains two electrodes made of porous metal. Hydrogen is released on one electrode and oxygen on the other. Normally, the two kinds of atoms would rush together to form water—a reaction in which energy is involved. To help harness this energy, a low-resistance liquid known as an electrolyte—in

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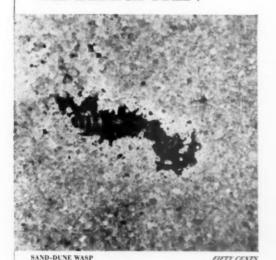


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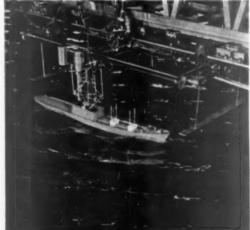
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Oakford is a prime example of gas industry cooperation in the public interest. Texas Eastern and New York State Natural Gas Corporation developed it jointly and now share equally the 105 billion cubic feet of storage capacity.

Combining long-distance pipelines with Oakford storage, Texas Eastern assures an ample, continuing, year-round supply of this clean, economical and adaptable fuel for homes and industries in the Midwestern, Appalachian and Eastern Seaboard states.

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Bacon's cell, a potassium hydroxide solution—is used to separate the electrodes

At the oxygen electrode, some of the oxygen gas molecules react with water to form negatively charged hydroxyl ions. These hydroxyl ions move across the electrolyte to form water molecules, but, in doing so, they carry negative ions from the oxygen electrode to the hydrogen electrode, where they accumulate.

If the process ended here, the negative charge building up on the hydrogen electrode would soon start repelling some of the advancing hydroxyl ions. As a result, the cell's voltage would be stymicd at about 1 v. But it's simple to permit a usable electric current to develop: To do so, it's necessary only to join both electrodes to an electrical circuit. This way, the excess electrons on the hydrogen electrode can flow back through the circuit to the oxygen electrode, and the migration of hydroxyl ions can continue.

Theoretically, a cell of this sort will work even at room temperatures and normal air pressures. Bacon's model, however, runs at 200 to 400 psi and 200C—and, under such conditions, scores better than 70% in efficiency.

• Special Metals—In the early Bacon

 Special Metals—In the early Bacon cells, it was a real problem to find suitable materials for the electrodes. They had to be good conductors of electricity, and, furthermore, they had to resist corrosion.

The current solution is to use nickel or nickel-plated steel through which many holes have been drilled. The plates are coated twice—first with a sintered nickel powder mixed with ammonium hydrogen carbonate, then with fine-grain nickel. Next the hydrogen electrode is soaked in nickel nitrate, roasted, and changed back into metallic nickel by reducing it in hydrogen at the coldest temperature possible. This makes is more active. The oxygen electrode is impregnated with lithium and roasted in a series of steps until it becomes fairly good as a conductor and resistant to corrosion.

Packing and design were also problems with early fuel cells. Bacon's solution for packing is to put 40 electrodes -each is-in. thick and 10 in. in diameter -into a battery and feed them with gas from the back. The whole package is then clamped together to withstand the pressures exerted inside. Special controls had to be devised to keep the oxygen and hydrogen both under equal pressure; otherwise, the electrodes would be distorted, possibly even ruptured. The designers also had to find a way to remove the water produced at the hydrogen electrode; in current models, this is done by circulating the hydrogen through a small condenser.

• Next Steps-With the Bacon cell,

the next steps in development will be to try to make the electrodes bigger and the whole unit lighter at the same time by using new materials for insulation for example, a blend of polytetrafluoroethylene plastic and compressed asbestos. It will also be necessary to find a safe way to replace gaseous oxygen and hydrogen with their liquid counterparts. In this effort, the new methods for handling liquid hydrogen developed in the missile program should help (page 67).

Progress has been steady enough in recent months, however, to suggest that Hydrox fuel cells may be on the market for sale before long.

• Fuel Cells at Work—When the cells become commercially available, they should find use in all sorts of jobs now handled by auxiliary diesel motors. The Hydrox cell will probably be most attractive at first in regions where fuel oil for conventional power plants is relatively scarce or expensive but electricity is plentiful. The electricity could be used to produce hydrogen and oxygen through electroysis, and the hydrogen and oxygen could then be fed into fuel cells.

Farther in the future, both Bacon and Chambers expect the fuel cell to find an important place for itself in the nuclear power plant. A nuclear plant is most economic if it always produces the same amount of power, regardless of demand. At time of surplus, its extra power could be used to turn water into hydrogen and oxygen electrolytically. The gases could then be used in a fuel cell, perhaps to drive

autos, tractors, or buses.

• Contenders—Despite the progress of the Bacon cell, other types of fuel cells may eventually prove just as good or better—which Bacon is the first to admit. It would probably be much more practical to run a fuel cell with some common solid fuel, such as coal. Conventionally, power is generated by burning a carbonaceous material such as coal or oil—in other words, by causing it to react with oxygen to produce heat. Much of the potential energy is wasted in this process. It might be possible to oxidize coal or burn it under rigid control to produce electricity directly from the reaction.

So far, no scientist has found a way to do such a thing. But no one knows a fundamental reason why it shouldn't be possible.

Each of the approaches to fuel cell development will contribute to the art. "Research in the field of fuel cells is, at the moment, just breaking out into its own," says one observer. "It started way back in the race. But from the speed at which it's moving, it won't be long before it becomes a real challenger as an energy supplier in dozens of specific uses." END

## In Research

#### Less Worry About Space Debris Than Feared Earlier, Scientist Says

Metal skins of spaceships may last 100 times as long as previously expected. The cratering effect of meteoroids that strike at very high velocities has been overestimated, R. J. Bjork of Rand Corp. told the 10th International Astronautical Congress in London last week.

When a particle strikes a target at certain velocities, it causes a crater that is more damaging than a straight penetration would be. This effect has long been known and has even been explored as a possible technique for destroying enemy satellites or incoming ballistic missiles. It has also been studied as a possible hazard on interplanetary space flights.

According to Bjork, Rand Corp. scientists studying impacts at high velocities have found that earlier predictions about the vulnerability of metal surfaces—mostly based on relatively low-velocity impact experiments—were far too exaggerated.

#### Armed Forces Give Industrialists Long List of Research Wants

At the Armed Forces Chemical Assn. meeting in Washington last week, industrialists heard the defense services list the research developments they would most like to have.

Army and Marine Corps officials want an efficient flameless heating element to warm food in forward combat areas; a packaged ration that can be eaten without mess gear; inexpensive disposable equipment such as clothing, ammunition belts, and tents; lighter-weight, more powerful plastic and fiber glass armored clothing; lightweight, small, and silent power sources for radios and telephones; fuels of less weight and bulk; lightweight fuel containers; non-metallic anti-tank mines; screening smokes with a high degree of blanketing uniformity.

Lt. Gen. Arthur G. Trudeau, the Army's research and development chief, stressed the Army's continued interest in new chemical weapons "that would allow (enemy) personnel to recover completely with no permanent aftereffects but assist in securing military objectives intact."

He cited two types: psychochemical agents to "disturb the normal behavior pattern of the individual, causing either apathy, fear, disorientation, or personality withdrawal"; and physically incapacitating types that temporarily blind, lower blood pressure, or cause temporary paralysis.

The Air Research & Development Command also had a long list of interests:

• Better plastic materials for use as gaskets and seals between flanges in rocket engines and in rotating or moving equipment such as valves and pumps. "As yet," one ARDC spokesman maintains, "we have not found a plastic material capable of withstanding the corrosive action of concentrated fluorine."

 Materials with low vapor pressure for use in the permanent external structure of space vehicles.

 New methods for lubricating rolling and slidingmachinery contacts in a vacuum such as exists in outer space.

 Paints, plastics, covers or paint binders that are not sensitive to strong ultraviolet radiation over long periods of time.

New chemicals "which can be disassociated efficiently by photolysis and pyrolysis and whose products then can recombine in a fuel cell to produce electricity."
 This would provide a complete chemical system energized by the sun for space stations.

## Oceanographers Develop System For Spotting Distant Storms

Weathermen may some day be able to spot storm centers up to 8,000 miles away. This hope was reported in New York last week at one of the closing sessions of the International Oceanographic Congress.

Prof. Walter H. Munk of the Scripps Institution of Oceanography at La Jolla, Calif., described one such long-range detection system. The system has already been used, Munk said, to detect storms in one of the world's stormiest areas, south of Australia, by researchers stationed in California.

The first indication, Munk states, of a distant storm is the arrival of very small waves, only one-twentieth of an inch in height and a mile long. These waves increase and decrease in length over a period of days like the crescendo of a siren whistle, getting higher in pitch and louder as more power is applied.

It is next to impossible to detect such small waves at the surface of the ocean. But it is possible to calibrate them with underwater pressure measuring devices.

A combination of two shore stations, properly equipped, should make it possible to determine both direction and distance of a storm. The equipment involves vibrating wires, strung on a diaphragm, like violin strings.

## Lab Uses Induction Heating Coil To Watch Progress of Drug Absorption

Smith Kline & French Laboratories, Philadelphia pharmaceutical company, has adapted an induction heating coil to study the absorption of oral drugs in the gastro-intestinal tract. The device eliminates use of surgery or electrical or mechanical attachments.

For the past year, SK&F has been examining dogs to see if the position in which a drug is released has any influence on the rate of absorption and time when peak concentration in the blood is reached. While the research is not complete, evidence so far indicates that it does. Further confirmation could have important significance to the improved formulation of drugs and dosages.

## How many

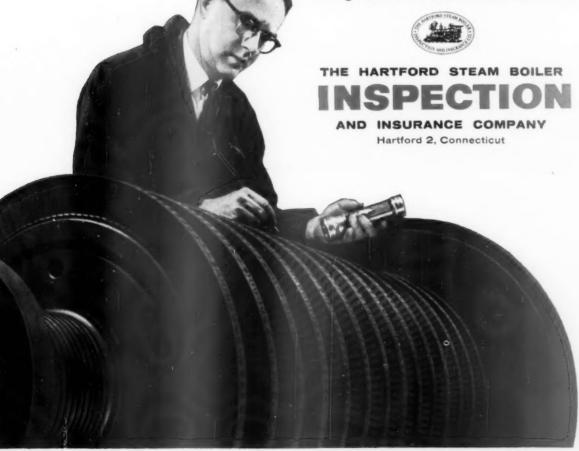
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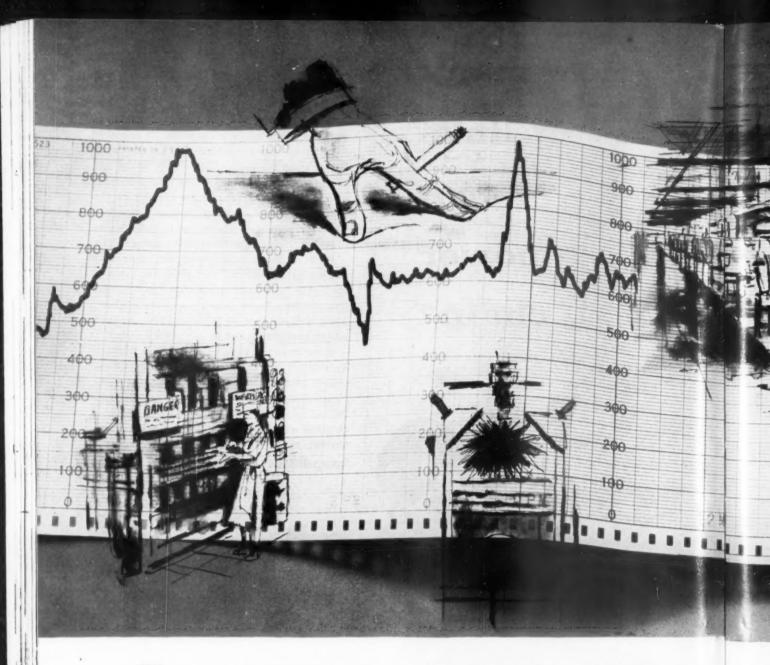
Power machinery, like this turbine generator, is made up of myriad precision parts, all delicately balanced for smooth operation. Let just one "link" fail . . . and the results can be both violent and expensive. To help guard against this, thousands of companies call on the unique facilities of The Hartford Steam Boiler Inspection and Insurance Company, world leader in the specialized business of insuring and safeguarding power equipment.

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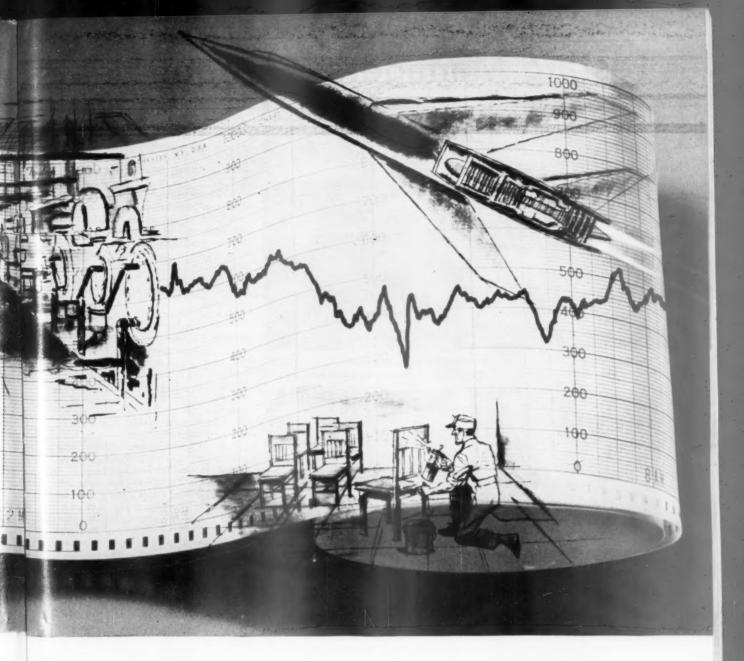
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## Testing Managers Without Heat



TAKING TESTS are W. A. Meiter, Worthington's vice-president for employee and public relations, and (in rear) a subordinate: Edward Barwell, manager for union relations.



TEST RESULTS are studied by Dr. Fred , Coney, of outside firm of psychologists.



MEITER has private conference with Dr. Couey about personality test results.



BARWELL also has his turn, with assurance that talk is confidential.



BOSS AND AIDE get together to discuss mutual problems they have discovered.

Worthington Corp. says it puts no pressure on its men to take personality tests or to do anything about the results.

The men who control the destinies of American corporations have long recognized the importance of "management development"—of seeing that junior executives develop the job skills they need to move on to more responsible posts. But development programs have run through a series of fashions, ranging in approach from the whip to the lump of sugar.

Budding executives have been probed by psychological tests, shipped off to conferences and seminars, prodded into evening schools and college courses on "advanced management," rotated dizzily from one job to another to gain breadth of experience. Lately, coaching has been the rage (BW—Mar.9'57,p61) with supervisors parading into their superiors' offices to be told frankly, face to face, what's wrong with them.

Some top management people and some professional psychologists wonder, though, if it isn't a bad idea to push a man so hard. Perhaps the manager who is being prodded doesn't really want to get into the elimination race that leads to the top. In that case, the development program may be wasted on him. Even ambitious executives may resent a pushy program, rebel at an encroachment on what they consider personal territory.

• Self-Development—At least one company is changing its whole approach to management training. Worthington Corp., with annual sales of \$185-million of pumps, compressors, and air-conditioning equipment, has adopted a program called Self-Development Activity, with the emphasis on "self."

with the emphasis on "self."
Worthington's Pres. Walther H.
Feldmann concurs in the need for management training to keep a company strong, but he has been dissatisfied with nearly all existing programs.

Feldmann feels that the only way a man can change his attitudes or enlarge his field of knowledge is by wanting to do so. "All development is self-development" has become the company's slogan in management training. And, says Feldmann, programs that "develop" a man by telling him what to do-programs that start outside the man himself—are doomed to be largely wasteful and ineffective.

"Basic change comes only from a sense of self-commitment," says a psychologist on the staff of Kenneth F. Herrold &

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Just as the transistor already has "shrunk" electronic apparatus in commercial, industrial and military applications — as typified in consumer goods by tiny transistorized radios and TV sets — new Semiconductor Solid Circuits will further shrink electronics, making it possible to build more complex systems into electronic-packed computers, missiles and satellites.

Born from a TI-sponsored research and development program, the new construction technique makes it possible to compact over 30 million components in a cubic foot! New Semiconductor Solid Circuits require up to 75% fewer leads and connections than conventional electronic circuits, greatly increasing systems reliability. In the manufacture of the circuits, TI uses such semiconductor manufacturing techniques as controlled masking, etching and diffusion. This newest TI development contains diode and transistor elements, as well as elements of resistance and capacitance, to provide a complete circuit function normally requiring up to 12 components, all in one integral piece of semiconductor material!

TI Semiconductor Solid Circuits perform such basic electronic functions as amplification, oscillation, counting, and switching. The many possible fields of application include communications, missiles, satellites, radar, sonar, business machines, computers, and industrial automation where electronic systems are contained within the machines. Hardly the size of a paper match head, the TI solid circuit can also be used in medical research, with medical instruments placed within the human body as an aid in diagnosis.

It's understandable that such revolutionary technological advances come from a leader in the research, development and manufacture of semiconductor products. The new Semiconductor Solid Circuit can be added to a long list of TI major "firsts"... in semiconductor products and transistorized equipment and systems; in geophysical data gathering and processing; in military electronics, and in precision instrumentation. Technical innovation is typical of Texas Instruments, where such significant developments result from TI's emphasis on creative ability and freedom of professional expression.

Another reason why you should

keep an eye on T/I

Associates, a consulting group made up largely of psychologists from Columbia University's Teachers College. Herrold has been consulting on the SDA program for three years, administers a battery of tests to Worthington managers in order to point up personality drawbacks and areas of job conflicts.

Worthington makes a point of (1) leaving it up to each man to decide whether or not he wants to take the tests and (2) keeping the results of the individual section of the tests completely confidential.

#### I. The Testing Setup

The SDA program was instituted three years ago when Feldmann, who long had had his own ideas about management development, became executive vice-president "and could do something about it."

He was worried because Worthington, whose sales had doubled between 1947 and 1956, had a whole tier of top managers at the threshold of retirement age, with no arrangement for development or evaluation of the men who might succeed them. Training programs had been limited to salesmen and to recruits from college.

Feldmann's fears were borne out almost immediately when, also in 1956, Worthington suddenly found itself hard-pressed for general managers. The company had decided to decentralize operations in nine divisions. It found that all too few of the functional management specialists were ready to take over a division's across-the-board operations. That's when Herrold was brought in and SDA began.

• Down From the Top—SDA starts with a battery of standard intelligence and personality tests and a 20-page job analysis "workbook" that includes questions on relations between superior and subordinate. In each office, plant, and department, these tests are given first to the highest ranks, working down as time goes on. After three years, in some plants they have reached the level just above foreman, the lowest rank that participates.

Theoretically no one is required to take the tests if he doesn't want to, but a request from a boss is often almost an order. If a manager decides to stop there, though, he need not ask his subordinates to do the same for him. In this case, of course, his subordinates are deprived of the battery of tests whether they want it or not—and this has been cited by skeptics as a flaw in the voluntary nature of the program.

Even if a man takes the tests, any further moves are up to him. He alone gets the analysis of himself as an individual. He can arrange to take courses or attend seminars, can make an effort to improve his personality—or can toss

the report into the wastebasket and forget about it.

• Three Facets—The Herrold organization prepares the tests and analyzes the results. Each man then gets, by mail:

A confidential analysis of his own psychological test results. For example, "This person has average intellectual ability . . . he likes to be with people and to work with other people . . . he may tend to be relatively nervous, and he would probably be unable to continue with or complete tasks which do not interest him. He may tend to have narrow interests, which could limit his perspective in a large corporation."

A report about his relationship with each subordinate, each of whom also gets a copy. This spotlights areas of disagreement. ("Although you both agree on the importance of leadership in Mr. Doe's job, there appear to be certain differences in what you feel represents desirable managerial leadership. For example, one of you presents the model of a neutral leader as contrasted to a more active leader described by the other.")

A report on the group as a whole, with a copy for each person. This seeks to analyze the general problems shared by the manager and all of his subordinates. ("You differ in what you seem to expect the department to accomplish in the near future, and also in the difficulties perceived by you in accomplishment of plans")

ment of plans.")
• Followup—The Herrold organization later has private consultations with each man and a meeting with each departmental group that filled out a workbook. These discussions attempt to translate the findings from professional jargon into terms that mean something to the men involved.

Individual conferences are also part of the personnel counseling programs that have been used at such places as Western Electric Co., Inc., and Johnson & Johnson. Both systems use specially trained interviewers and insure the secrecy of what is said. But their purposes are different. Standard personnel counseling tries to make the employee discover and discuss his own problems; Herrold's technique is merely to present the evidence turned up by the tests and questionnaires, leaving it up to the employee to decide whether or not it gives a true picture of himself.

• Importance of Privacy—Keeping confidential the reports on each man—an important and unusual feature of the Worthington plan—has a double value, Feldmann and the Herrold group feel.

Obviously, this policy relieves the anxieties of some men, makes them readier to take the tests.

Less obviously, it improves the accuracy of the case study. The Worthington plan recognizes that its managers and supervisors weren't born



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vesterday, that when tests are going to be used to decide promotions and raises, people tend to give the "right" answers rather than the true ones. If tests aren't going to be used for such purposes, the company reasons, the emplovee being tested will give generally honest answers. And if the report he gets back rings true to him, he'll be likely to remedy his deficiencies.

#### II. How To Do It

The testing is only the first stage of the SDA program. The next is to assure managers an opportunity to learn the skills that the reports show they lack. Some of these avenues to selfimprovement are already open.

A management man can usually get approval for tuition refund for courses that are related to his job; if enough men are interested in the same subject. Worthington often sets up its own inplant course. Companywide training sessions have been held, for example, in what newly appointed divisional personnel men should know about the operations of a union contract. More such courses are in preparation; the company has just hired a fulltime training director. Enrollment of managers in American Management Assn. seminars has also increased sharply.

· Happy With Results-Worthington feels that the program has worked well so far, though, says Feldmann, "That's something you just have to take on faith." The company has boosted its budget for the testing part of the program up to \$100,000 this year.

As byproducts, the testing program has been used at both ends of the scale-to detect hardening of the intellectual arteries at the top rung of management (retirement, some of it ahead of schedule, has "pretty much taken care of this," says a high official) and to screen recruits from college graduating classes. This has helped to raise the aptitude level of the 1959 class more than a quartile above the 1957 level.

#### III. How Much Pressure?

The program is still admittedly an experiment, with the tests still being revised. It remains to be seen, too, how well the "entirely voluntary" feature of the testing program stands up.

There is no front-office push behind the tests, observers agree. Management people in many Worthington plantsnotably the one across the street from the company's Harrison (N. J.) headquarters-have dragged their feet on taking or giving the tests. However, it is well known that Feldmann is thoroughly sold on the program, and some managers are suspected of halfheartedly taking the tests for this reason. · Success Story-It is natural, too, for

the company to show its pride in the executives who set great store by the test results.

For example, there was one man who worked under the same boss for 28 years, moved up behind him as the boss stepped into a vice-presidency, vet never got a personal appraisal from his superior. The first battery of tests showed that "there were many decisions to be made where I should keep my big mouth shut," that "I demanded too much of people," and that "I wasn't half as smart as I thought I was." It also showed that the vice-president didn't think the man was ready for promotion.

The man began taking courses offered by his professional association, made an effort not to voice his opinions when they weren't asked, began giving his subordinates more leeway, "though their methods sometimes nearly drive me crazy." Result: He has now succeeded his retired boss in the vicepresidency

• Pressure Leak-A potential leak in the secrecy of personal records is the occasional request of a superior for a subordinate's personality test analysis. This is given only if the subject of the test gives his permission. But there could be times when it would be hard to withhold this permission.

There are also company personnel people who are beginning to wonder if it wouldn't be helpful to have all those test results in the files. . . .



#### New Secretarial Service

Drive-in day-and-night secretarial service for the traveling businessman is being franchised nationally by C. A. Richey Enterprises, Inc., Indianapolis coordinator of sales meetings. A fixed monthly fee gives the user a key to a covered roadside booth. From his car he can dictate reports and letters, via private telephone, to recording equipment in a secretarial service office.

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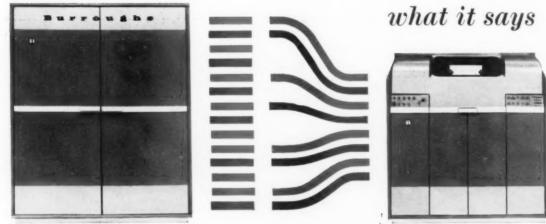
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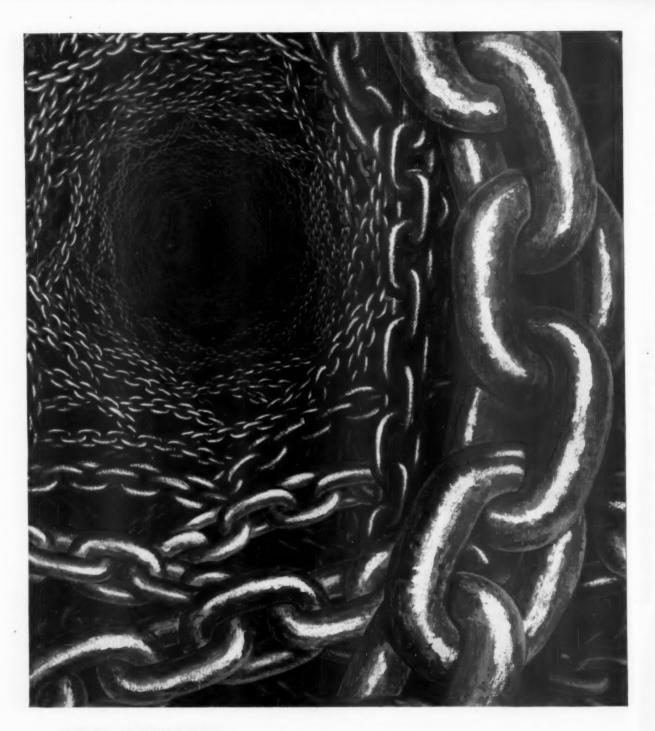


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## In Management

## Materials Producers Reorganize In Almost Opposite Directions

Two major producers of basic materials have reorganized their management structures in opposite ways. National Gypsum Co., long centrally operated from Buffalo, N. Y., has begun a decentralization program, while United States Borax & Chemical Corp., Los Angelesbased producer of boron and potash products, has abandoned its divisional structure in favor of a centralized functional one.

National Gypsum, producer of building materials, has followed the practice of integrating acquired companies into its central organization. But the two newest acquisitions, Huron Portland Cement Co. and American Encaustic Tiling Co., didn't fit into the parent company's established distribution channels, since they need their own separate selling groups. So they will be operated as autonomous divisions.

U. S. Borax, on the other hand, has been operating Pacific Coast Borax Co., U. S. Potash Co., and 20 Mule Team Products as divisions since the parent company was formed by merger in 1956. Next week, the divisions will be replaced by a functional organization with five vice-presidents heading production, technical, administrative, and two marketing departments.

#### GE Upgrades International Operations, With James Goss Heading New Group

General Electric Co. is upgrading its international operations. A new operational group, international—with group vice-president James H. Goss, 51, as its head—has been added to GE's three other groups of product divisions. It will deal with GE's sales and production abroad.

International General Electric Co., which had been the only division not under a group v-p, is now part of the international group. Goss also will be responsible for liaison with Canadian General Electric Co., Ltd., 99.5% owned by GE. Goss, onetime president of CGE, had also had this responsibility in his former post as consumer products group vice-president. Goss's horizontal move into the new spot highlights him as "a logical candidate" to succeed Chmn. Ralph J. Cordiner, according to one company spokesman.

At the same time GE announced it was shifting its radio receiver department out of the housewares division into a new radio and television division. Radio and TV had earlier been together, then were split up five years ago because the company felt the products needed different channels of distribution. The new division also includes phonographs and hi-fidelity components as well as the GE-owned Schenectady radio and television sta-

tions, which previously had been under Maqua Co., a GE-owned printing operation.

The organizational changes also produced a chain of executive shifts. Goss's successor as group executive for the consumer products group is Fred J. Borch, 49, who has been vice-president for marketing services. Charles K. Rieger, 43-year-old vice-president and general manager of the major appliance division, moves into Borch's marketing services post.

#### Don't Want Sons to Follow Them As Heads of Family Businesses

Although family connections smoothed the road to the top for many members of the Young Presidents' Organization, who all made their mark before 40, most members say they want their sons to make careers outside the family company.

Science Research Associates queried a random sample of the 1,500 members of YPO. Nearly half of those surveyed became presidents by succeeding a relative in the family business. Yet only 14% said they would like to see their sons follow in their footsteps.

As a group, the young presidents were strongly in favor of formal education. (Nearly all of them went to college; nearly three-fourths graduated, and more than half took postgraduate work.) Only 11% graduated from Ivy League colleges; the largest group, 35%, went to Midwestern schools. Only about 25% of the presidents majored in liberal arts in college; engineering and commerce were more popular choices.

#### Management Briefs

A new association of management consultants specializing in small business problems has been formed in Washington, D. C. The man behind the group, the Assn. of Management Consultants, is Washington consultant George C. Webster. By building up a library of case studies and other basic information, Webster hopes to reduce the cost of consulting service to a figure that will appeal to small companies. He is now signing up consulting firms, with an eventual goal of some 200.

International Resistance Co., Philadelphia-based company that claims to supply 25% of the resistors used in this country, has gone outside its own ranks for a new president. He is Walter W. Slocum, former management consultant who most recently has been vice-president in charge of operations of Daystrom, Inc. Charles Weyl, IRC president since 1953, becomes chairman of the board, gives up chief executive role.

Forty-one professors from 32 college business schools last week began a year-long course at Harvard and MIT. They're enrolled in a special session in application of basic mathematics to business, will work to introduce new mathematical techniques into such courses as market research, capital investment, and personnel administration at their own schools.

## Out to Crack Copying Market

Haloid Xerox, Inc., of Rochester, N. Y., aims for first time to break into office field with new desk-sized copier.

Every year, businessmen drown in a deeper sea of paper. There was a time when the American businessman needed little more in the way of records than a ledger and a balance sheet. Today he needs paper by the truckload—information on prices, sales, markets, production, inventory, transportation.

And he needs more people to handle the paper flow. In 1900, only two out of every 100 workers shuffled papers; today it's 16 out of 100. In the past 15 years alone, the clerical force has almost doubled, to more than 8-million people —as many as live in New York City.

This vast proliferation of paper, however, is not a plague to all businessmen. In fact, Joseph C. Wilson (cover and picture below), president of Haloid Xerox, Inc., of Rochester, N. Y., sees a fat profit potential in this flood of pa-

per. Wilson hopes to start mining this potential with the Haloid 914 copier, which he introduced this week in New York. This new product is Haloid's first attempt to take xerography, the company's electrostatic copying process, into the office copying field. It has previously been applied successfully to reproducing engineering drawings, making offset masters, and other fields.

offset masters, and other fields.

• Crowded Field—The description "copying machine" is usually applied to equipment that makes less than 15 copies. In office copying, when you go much above that amount you turn to duplicating processes such as Mimeographing, Ditto, and offset. Outside the office field, blueprinting and Photostattype photographic copying are used on both sides of the 15-copy border. They are not usually considered in the same class with other copying processes because they are usually more tedious and cumbersome. Photographic copying is also more expensive.

Office copying is a field where Haloid will find plenty of competition (chart, page 90). Most of the 30 or so copying machine manufacturers are already in it with a variety of products and processes—including such strong competitors as Minnesota Mining & Mfg. Co. (Thermo-Fax), Eastman Kodak Co. (Verifax), and American Photocopy Equipment Co. (Apeco). Their collective aim is to make office copying machines as much an office fixture as the typewriter.

And the stakes are high. Since 1950, when present copying machines first began appearing, the sales of such equipment have taken off like a guided missile. The growth rate of all copying equipment has been more spectacular than that of even the electronics industry. Sales in 1950 were \$60-million; this year they will hit an estimated \$522+million, and the predictions for 1965 range from a conservative \$371-million to \$500-million. Office copying alone is predicted to hit \$170-million to \$240-million by 1965.

This growing market has touched off a battle royal among manufacturers to come up with new products or refinements of existing ones to achieve a competitive edge. Their goal is a copier that is cheap, fast, and easy to operate, and that can turn out dry quality copies.

• The Newcomer-Haloid feels its new copier comes very close to the ideal. One reason the 914 can provide so much versatility is that it's an expensive piece of equipment. That's why the sales strategy Haloid has developed for the 914 runs completely contrary to industry practice.

For one thing, Haloid expects that in

most cases it will lease, rather than sell, the 914. It has set a monthly rental of \$95, which works out to a cost of about 4¢ a copy for a 2,000-copy-amonth user. Above a limit that will probably be around the 2,000 mark, a small charge per copy will be added to the rental. This charge will decline as the number of copies increases.

Most other companies lease only a small fraction of their copying equipment, sell it in over 90% of the cases.

The reason why Haloid chose the leasing route is simply that the price tag they will have to put on the machine (still not announced but probably running in the thousands of dollars) would scare off too many potential users. Moreover, Wilson says, the leasing arrangement frees the user from worrying about the machine's becoming obsolescent. That's the calculated risk Haloid has to carry.

• Where the Profit Is—The 914 also breaks with another industry tradition. Like most xerographic machines, it makes copies on ordinary office paper. In contrast, most other copying processes require specially treated papers.

Most copy equipment manufacturers make about 15% of their income on the machines, 85% on the special papers and supplies that must be used It's like the razor business, where the profits come from the blades, not the razors. Except for the small amounts of powdered ink it will sell, Haloid figures its revenues will come strictly from the machines. It feels that the sales it will get because of the 914's simplicity will more than make up for its loss of sales on supplies.

Competitive machines offer several of the virtues of the desk-size 914, but no other single machine has yet been able to combine them as the Haloid unit does. It can copy any document up to 9 by 14 in., including colored material, and can copy single sheets or pages of bound volumes interchangeably. The 914 makes copies on any type of stock at the rate of six a minute. Copies are dry, permanent, and sharp enough to serve in turn as "originals" to make second- and even third-generation copies. The 4¢ cost per copy compares with a range of 46-9¢ for competitive units; this is in sharp contrast to the cost of having a secretary retype a page, which ranges from 68¢ to \$2.85. Haloid costs include 1¢ a copy for ink and paper. Diazo copies cost only le each, but don't compete heavily in office copving because they require one-sided, translucent originals.

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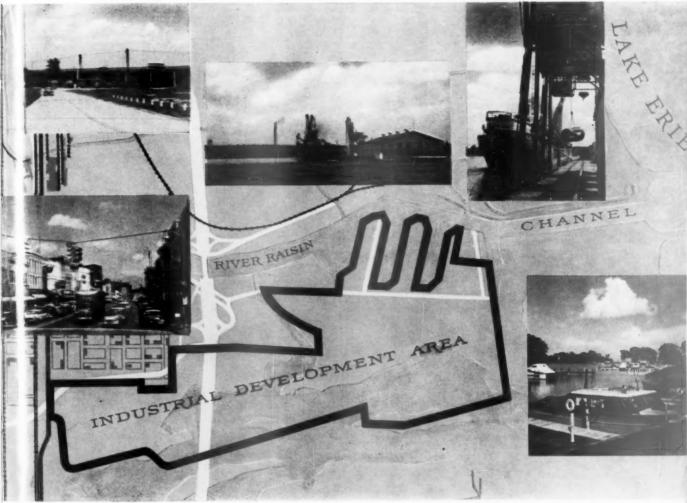
A 914 operator simply places the original document on the machine's glass scanning plate, sets a dial for the



HALOID PRES. Joseph C. Wilson expects big things from this new 914 Copier, which uses a dry process in its duplicating work.

## PORT OF MONROE:

Another area in Southeastern Michigan has planned for industry



photography by Joe Outland

The Port of Monroe is readying itself to be a "seaport." A million-dollar dredging operation, in the final stages of completion, will open the harbor to oceangoing vessels. The 21-foot-deep channel has an obstruction-free entrance which eliminates the need for tugboat service. There is a 22-acre turning basin and 1,400 feet of bulkheads to accommodate lake and ocean ships.

In addition, there are gantry cranes and a 14,000-square-foot transit shed at the basin. Seven major railroads and a network of highways serve this area. Fact is, the Detroit-Toledo Expressway bisects the 650-acre industrial park which is adjacent to the port.

Here is an ideal site for heavy industry. An extensive limestone ledge, no more than 40 feet down at any point, lies under a layer of clay hardpan—an excellent foundation for any type of building.

These are only some of the features the Port of Monroe can offer firms planning expansion or relocation. Nearby is Monroe proper—a progressive city which has planned for new industry. It is continually making itself a finer community in which to live and work.

The Port of Monroe is typical of many Southeastern Michigan areas destined for well-planned growth. Let us tell you more about them.

(Clockwise) Monroe, a lively, planned-forindustry city; excellent transportation and port facilities—in Michigan, the Water Wonderland.



Write to: Plant Location Service DETROIT EDISON Provides Southeastern Michigan Area Development Division DETROIT EDISON with versatile electric energy

## ANOTHER HERTZ IDEA



Now...you always know the way to go, when you rent a car from Hertz! Only Hertz Rent A Car shows you the way to go wherever you are, wherever you're going. And only Hertz, with over 1,750 offices, makes it so easy to reserve a car, so fast to rent a car and so convenient to pick up a car at one Hertz office and leave it at another. Our low rates cover everything, too—all gasoline, oil and proper insurance. Just call your local Hertz office or see your travel agent to reserve a new Chevrolet or other fine car anywhere. It will be waiting for you on arrival. And so will a free Hertz Direction Finder Kit.

number of copies desired, pushes a button, and then can walk away. When the copier has spewed out the specified number of copies, it automatically shuts off. The machine feeds in its own copy paper automatically.

#### I. A Young Industry

The office copying industry dates back only to the late 1940s and early 1950s. Until then, many manufacturers were conscious of a growing demand by businessmen for cheap, simple copying devices but lacked the right process and skills to produce a commercial machine.

One of the first processes to become commercial was the diffusion transfer process, developed in Germany during World War II and later brought over to the U.S., where Apeco led the way to big markets for it. Eastman Kodak followed suit with its slightly different Verifax process. Another process that gave a tremendous boost to the copying field was Thermo-Fax, invented by Dr. Carl Miller of 3M's research staff. Thermo-Fax machines, simpler to operate than diffusion and Verifax units, quickly grabbed off a big chunk of the copying market and became 3M's hottest-selling new product.

These successes paved the way for other manufacturers to move into the field, and improvements have followed hard and fast. For example, secretaries don't like to handle developing liquids, so Kodak and the diffusion transfer makers are developing systems where the developer bottles empty themselves into the trays in the machine. Apeco and Cormac Photocopy Corp. have come up with diffusion copiers that require only one instead of two opera-

Other newcomers are coming in besides Haloid. Smith-Corona Marchant, Inc., will have its own office copier soon, and manufacturers are eving a dry photographic process recently developed by Kalvar Corp. of New Orleans, which looks adaptable for copying.

While the supply of copiers has multiplied, businessmen have become increasingly aware of the devices and have discovered a host of new uses.

Some of the uses have been dramatic. For example, in 1955 when the State Dept. decided to send its White Paper on the secret 1945 Yalta meeting between Stalin, Roosevelt, and Churchill to Congress, it decided at the same time to "leak" the story to James Reston, chief of the New York Times' Washington bureau. Reston received the 834-page, 200,000 word document at 10 o'clock one night and was told it must be returned the next day at an indeterminate, time on "15 minutes' notice." The Times pressed its copying machine into service, thus was able to



PRODUCT SCREENING is responsibility of these men: Pres. Wilson, John Glavin (reporting on a product idea), General Counsel Sol Linowitz, Exec. Vice-pres. John Dessauer.

have the text edited and set in type in time to make journalistic history.

Other examples, while less exciting, show the versatility of the machines: Gimbels department store uses its machines to copy invoices; a New York accounting firm copies ledgers for later audit at its own office; an importer copies letters written in foreign languages for transmission to its banks, and a Detroit engineering firm uses its machine to copy specification sheets.

• Who Buys Machines—These growing applications, plus the pioneer work of other manufacturers in marketing their machines, all should make Haloid's job of selling the 914 easier, Wilson figures.

He feels the 914's biggest potential is from the top 10% of the users of the 300,000 or more copying machines in the country. These are the offices requiring 100 or more copies a day, the point where the 914 really pays off, Wilson says. If the new copier can reach this market by 1965, the 914 alone will double Haloid's current \$30-million sales volume, Wilson predicts.

#### II. Many a Gamble

For Haloid, the 914 represents an investment of \$1.5-million in three years in research and development. This is the sort of gamble Haloid has made ever since 1948, when it staked \$7-million—about equal to its annual sales then—and its future to acquire and develop a new electronic process that had never been tried outside a laboratory. At the time, Haloid was an old but small and not an unusually profitable maker of photographic

supplies and photocopy machines and

Haloid bet that it could take this new way of creating images with light and electricity and could develop from it a flow of profitable new products. To date, the gamble has paid off handsomely. Since 1950, Haloid has developed 120 new products, mainly in the field of xerography.

The impact of these products is clear in Haloid's income statement. Since 1950, company sales have tripled, and well over half its business is provided by xerographic products. A breakdown of Haloid's sales figures for the first six months of this year shows that 84% of the company's revenue came from products developed since 1950.

· Finding a Process-Xerography kicked around for more than 10 years before Haloid grabbed it. It was invented in the mid-1930s by Chester Carlson, a Long Island patent attorney. Carlson tried to interest some big companies in his process with little luck. However, in 1944, Battelle Memorial Institute became interested and offered to take on its development. Two years later, Dr. John Dessauer, now Haloid's executive vice-president in charge of research and development, read an article on xerography. Though the process was still in the embryonic stage, both he and Wilson quickly saw its possibilities for the copying industry.

Wilson leased the patents from Battelle, then started a crash research program as well as full-scale tooling for xerographic products. In 1956, he made a deal with Battelle giving Haloid exclusive rights to the process. The net result was that Haloid knotted its future



## The booming office copying field... ... It includes 35 companies, 5 processes.

	DIAZO	DIFFUSION	VERIFAX	THERMOFAX	XEROGRAPHY
PROCESS AND MFRS.	Charles Bruning Co. Ozalid div., General Aniline & Film Corp. Peck & Harvey Mfg. Corp. C. F. Pease Co. Paragon Revolute Corp. Technifax Corp.	American Photocopy Equipment Co. 20 others	Eastman Kodak Co.	Minnesota Mining & Mfg. Co.	Haloid Xerox Inc.
HOW IT WORKS	Ultraviolet light passes through original to paper coated with diazonium salts. Light rays deactivate diazo coating except where there are opaque markings on the original. Copy then passes through ammonia fumes or rollers moistened with developer, which turn remaining diazo coating into copy of original.	Light passes through photographic-type negative to original and is reflected back to sensitized surface of negative. Exposed negative is then placed in contact with sensitized copy paper and the two are passed through liquid developer, then through rollers which remove developer solution and press the two sheets together. They must usually be peeled apart by hand.	Light passes through matrix coated with light sensitive gelatin dye emulsion to original and is reflected back to emulsion surface, yielding negative image. Matrix is then placed in contact with sensitized or ordinary copy paper, passed through activator solution and through rollers. Contact transfers dye from matrix to paper. Two sheets must be peeled apart by hand.	Infrared rays pass through sensitized copy paper to original. Carbon or metallic particles of printing on original are heated. Hot image turns copy paper dark.	Original is projected to charged surface of selenium plate or drum through lens ov by contact under exposure to light. Where light strikes surface, electrical charge dissipates; where image protects plate from light, charge remains. Powdered "ink" with a negative charge dusted over surface is attracted to charged areas. Paper, placed over surface and given a positive electric charge, attracts ink which is then fused onto surface by heat.
LIMITATIONS ON ORIGINAL	Must be one-sided and translucent	None	None	Must be carbon or metallic inks. Ball- point pen, many col- ors will not repro- duce.	None  ©BUSINESS WEEK

to xerography (Haloid changed its name to Haloid Xerox in 1958) and Battelle (which was paid in stock for the patents) wound up as the company's biggest stockholder.

• Out of the Lab—The next problem was how to start moving xerography out of the lab into the marketplace. First, it was obvious that Haloid's own research staff had to be beefed up, and it was. The \$270,000 spent on research in 1949 has now become a \$2-million annual expenditure—roughly 8% of sales—and Wilson hopes to increase this by 20% a year.

Haloid's 15-man research staff of 10 years ago has become a 200-man task force. And Haloid has a new \$3.5-million research building going up in Webster, a Rochester suburb. The company has also set up a three-man new products development team that reports directly to Wilson. It's responsible for pushing development once a product's technical

feasibility is proven, and for screening prospects, and provides liaison between R & D, marketing, and manufacturing.

Wilson also decided to bolster the company's research program by tapping outside consultants, such as Dr. John Bardeen, a co-inventor of the transistor and a Nobel prize-winner. Their function is not so much to work on xerography as to keep up the scientific attainments of Haloid's own researchers—in Dessauer's phrase, "To make up for the fact that we're not Bell Labs."

Haloid also kept Battelle and other outside research institutes at work, not only because the foundation's staff had a great deal of experience with xerography but also because Wilson felt that such an outside group would bring in a fresh and wider point of view, keep the company's researchers "from getting in a rut."

"More than that," Wilson says,

"Battelle had a large breadth of knowledge in many fields—a breadth we couldn't get even if we doubled our staff."

#### III. Joint Ventures

Wilson found another source of research power in the practice of working with some of the industrial giantslike General Electric, General Dynamics, Bell and Howell, IBM, and Eastman Kodak—on joint research projcets to which xerography was applicable.

"Xerography is an industry and Haloid alone can't be the whole industry." says Wilson. By sharing xerography, he figured, Haloid would still have a stake in xerographic products developed by the others, without having to put up the money. Such deals would give Haloid a big helping hand in terms of research talent as well as



### Know what to make of this?

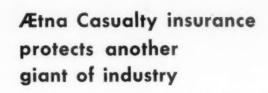
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B.F.Goodrich industrial cellular materials



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## ÆTNA CASUALTY

Quality INSURANCE for individual, family, business, home and other possessions





DESSAUER, who helped to get Haloid into xerography, is top research man in a research-conscious company. About 8% of Haloid's sales dollar goes into R&D.

marketing knowhow. It would also link xerography with a wide range of mechanical processes.

Wilson, of course, is aware of the disadvantages such sharing may have. "But it's a lot better to share something than get nothing by trying to keep it all," he explains.

· Partners-So far these joint ventures look promising. For example, working with Stromberg-Carlson Div. of General Dynamics Corp., Haloid has developed the SC-5000, a xerographic printer for high-speed computers, which can spew out words at the rate of 84,000 a minute. That's the equivalent of a novel per minute.

Then there's xeroradiography, in which X-ray pictures are made by the xerographic process. Haloid licensed General Electric for this process, which looks promising for both medical and industrial X-ray work. Its main attraction is being able to haxe X-rays developed immediately, a sizable advantage especially in industrial inspection work.

• In Competition-Haloid has even licensed processes that can result in competitive copying products. For example, Haloid licensed the Electrofax process to RCA. While xerography makes an electrostatic image on a metal plate or drum and transfers it to ordinary paper, Electrofax makes the image directly on specially treated paper. Haloid licensed the process to RCA because it didn't have the resources to follow up on both processes. It wanted to concentrate on the copying equip-ment that could use ordinary paper. Nor is it unhappy that RCA, in

turn, has licensed Electrofax to a number of companies including Apeco and Charles Bruning Co., Inc., which may well use it to develop new copying machines. Wilson figures Haloid will share in any success they have; it has license agreements with all RCA sublicensees and also makes Electrofax paper.

#### IV. Development Strategy

In choice of xerography products for development. Haloid has been governed by expediency.

"We wanted to develop those products that could be produced quickest and start money flowing in to support other developments," Wilson explains. The original Xerox processing equip-

ment-still in demand for making offset masters-was made up of a number of partly hand-operated units. From there, the easiest path to follow to completely automatic units was to build giant copying machines, such as the Copyflo series, which can copy documents at the rate of 24 linear feet a minute or automatically enlarge and print from 16 mm. and 35 mm. microfilm, and which carry price tags as high as \$175,000.

• Scaling Down-All the time that the company has been working on and selling these giant xerography machines, it has been aware of the growing demand for a small, cheap office copying machine that could produce copies on any sort of paper. However, Haloid de-ferred work on such a machine until 1956 because the marketing and engineering of a product like the 914 was a complex problem. Put simply, it is much harder to build a small xerography machine than a large one.

In developing the 914, Haloid researchers have had to simplify many of the parts, condense many of the steps in the process, miniaturize parts where possible, and continually find ways of cutting costs. For instance, it's easy to design a system to transfer paper from feed to drum to inker to heat fixer if you can lay it out in a straight line, which is essentially what the big machines do. It's not so easy to wind this transfer system around itself and still have it work efficiently, which is necessary in a small unit. And you may have to change the composition of the powdered xerographic ink if you change the time the paper is in contact with the drum or under the ink.

Now, with work on the 914 behind it. Haloid is busy developing a little brother to the 914 which it hopes will be economical enough to reach 30% of the market instead of the 914's 10%. · Newer Products-Haloid has other new products in the works. One is a high-speed continuous and automatic machine that prints and processes photographic prints and negatives by xerography with automatic compensation for variation in exposure. A military version of this unit has already been developed for aerial reconnaissance photography (BW-May2'59p98).

Another process under development

is for the rapid printing of facsimile or radar-type displays on cathode ray tubes. Such a machine could eventually permit the morning newspapers to be delivered via a living-room newspaper machine. Haloid is also at work adapting xerography to map-making,

#### **NEW PRODUCTS BRIEFS**

Now you can write on steel with an engraving pen powered by compressed air. The pen, made by Thor Power Tool Co., Aurora, Ill., is designed to mark parts, tools, and fixtures with the sharp blows of a carbide-tip point. It is said to write as easily as a pencil and can be adjusted to different materials by changing the speed of the blow. The pen comes with an air regulator valve and 8 ft. of hose to connect it to an air line. Price is \$60.

Filters of synthetic viscose fibers for chemicals and paints and general industrial use are being manufactured by American Felt Co., Glenville, Conn. The company says the new filters last six times as long as other fiber ones, and can trap particles as small as .0002 The filtering felt is made from mechanically interlocked fibers, which give precise filtering control and resist heat and chemical deterioration. The filters are available as a cartridge for about \$1.25.

TRC-X, a new phenolic laminate reinforced with glass fiber, maintains its strength, dimensions, and dielectric properties for several minutes at temperatures over 1,000 deg. This makes it suitable for use in missile printed circuits and radar equipment subjected to heat from air friction. TRC-X is also strong enough to replace metal parts in missile parts and can be bonded to aluminum as insulation. Riverside Plastics Corp., Hicksville, N. Y., makes the laminate. Price depends on the application, but it is comparable to other phenolic laminates.

IBM-style checks can now be indelibly printed with an amount on the face and keypunched at the same time. An automatic check printer-puncher does both jobs at once, thus eliminating any chance for error in separate punching. It also gives a punched receipt and register copy along with the check. The standard 80 column IBM card system is used so banks can run the cards to get quick statements for companies without punch equipment. The Hedman Co., Chicago, makes the Keypunch Protector, which sells for about \$650, or \$1,000 with dating and signing fea-

#### **INDUSTRIES**

## Uneasy World Feeds Arms Trade



GOODS that commercial dealers thrive on are mainly smaller arms, such as these machine guns, mortars, rifles seized in Miami from Nicaraguan rebels.

Though governments clamp down tight controls, commercial arms traffic is lively, despite a current price slump.

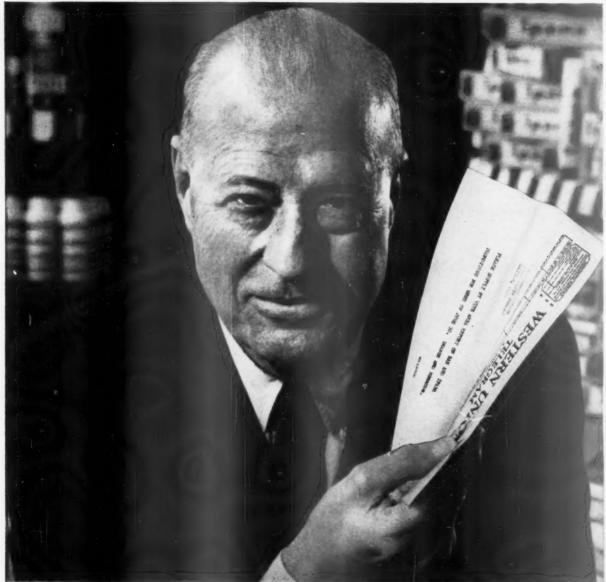
"A unique army," muses the bystander. Before him, a part of Austria's tiny Federal Army is marching by on a Vienna street, and except for the soldiers themselves, there is little about the army that is Austrian. Wearing U.S. Army OD's, the Austrian troops carry Soviet submachine guns, and use General Motors trucks to pull German antitank guns left over from World War II. Overhead, British Vampire jets roar; and as the parade passes, the clang of U.S. M-47 tanks echoes through the streets.

In a world saturated with weapons both new and old, much of the Austrian equipment—chiefly gifts from other nations—would be a commercial arms dealer's delight. For despite the fact that many governments regard commercial arms traffic as a dirty word and regulate its flow stringently, international business in arms is lively, lucrative, and big.

An estimate of its volume in terms of dollars is practically impossible to arrive at, but arms traffic has helped keep the Algerian war going, has figured in the upheavals of South and Central American governments, and has armed both professional troops and assorted bandits in Southeast Asia. In the U.S., sporting arms manufacturers moan over

MARKET is wherever there's unrest-Algerians (below) fighting French, Latin American revolutionaries, Asian bandits.





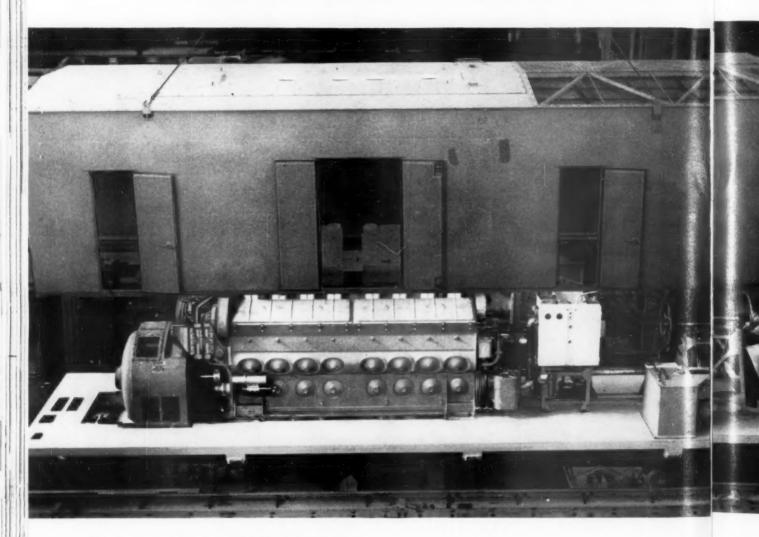
LEE H. BRISTOL, CHAIRMAN OF THE BOARD, BRISTOL-MYERS COMPANY

Measures merchandising impact with telegrams: Lee H. Bristol insists on Western Union Telegrams for upto-the-minute progress reports on drug product promotions. The telegram is a written record . . . no mistake about it.



Push-button peaking plant . . .

# FROM COLD START TO



Weather-proofed, sound-deadened housing is lowered over prime mover, generator and supporting auxiliaries. More than 20,000 prime movers and generators have been produced by Electro-Motive over a twenty-one year period.

Entire plant as it appears installed at the stepdown substation serving the load. Self-contained, outdoor-type units require no expensive building or complicated foundation work. From time of order to complete installation requires less than five months.



# FULL LOAD IN 90 SECONDS



# Electro-Motive MU-60 provides automatic, unattended supply for peak loads, system reserve, area protection

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First, the MU-60 is composed of components that have been applied to a wide range of applications over a 21-year development period. In thousands of hours, under all kinds of operating conditions, their records of performance have set new standards of reliability, durability, and low maintenance. The result is a standardized plant featuring low first cost,\* and low operating and maintenance costs.

Second, the MU-60 prime mover—the famous General Motors 567 series two-cycle Diesel engine—is inherently suited to fast starts and changing loads with long service life.

Finally, the plant's basic control equipment provides for unattended automatic operation at a remote location which makes it an ideal choice for area protection.

Because of standard components and design simplicity, the MU-60 has a high degree of flexibility and operational advantages. For example:

- Unitized, self-contained design permits economical installation of less than \$15 per K.W.
- Application at points of load reduces line loss from central locations.
- Building-block principle of application permits fitting power needs to area demand and growth.
- Plant may be increased in capacity at low incremental cost.

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\*\$85 per kw, f.o.b., LaGrange, Ill.



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# It Could Have Happened Only in America



Visitors to our shores usually are pleasantly surprised by the efficiency and availability of American telephone service.

Calls go through promptly and clearly, millions of people in all walks of life have telephones, and the cost is small.

The fact that Americans themselves are seldom surprised by these things is a tribute to the growing excellence of the service.

This efficiency and economy are no accident. They have resulted largely from the way the Bell System is organized, and through its large-scale programs of research and improvement.

No other telephone system in the world can begin to match this country's service—either in terms of facilities or operating efficiency. It could have happened only in America, under the American free enterprise system.

**BELL TELEPHONE SYSTEM** 



the glut of surplus military rifles that is undermining sales. And in Miami, dubbed the "Casablanca of the Caribbean," U. S. customs agents, after confiscating half a million dollars worth of illegal arms in the past few years, say they were "lucky if we grabbed 20% to 35% of it."

• From Discards to Late Models—Most traffic, whether illegal or legal, is in outmoded or surplus arms left over from the World Wars and Korea. During the revolt in Cuba, for example, a haphazard collection of ancient and near-modern weapons—rifles, carbines, bazookas, grenades, and machine guns—made up the chief stock in trade of the suppliers of the Castro rebels.

More recently, the armament race between the West and Russia has accounted for the appearance of newer weapons in commercial markets. In Miami this summer customs agents, after seizing a plane load of weapons bound for the Dominican Republic, discovered late model Garand rifles, new automatic guns, and the latest carbines. Only a month ago a French Army outpost in Algeria was attacked by nationalists, who for the first time in five years of warfare were equipped with modern heavy armament, including rockets and recoiless cannon.

A few arms manufacturers around the world also contribute to supplies. The Fabrique Nationale d'Armes de Guerre S.A. of Belgium maintains representatives in countries around the world, as do such famed manufacturers as Czechoslovakia's Skoda, Sweden's

Bofors, and Italy's Beretta.

#### I. Volatile Market

There is little that doesn't turn up in the commercial market, from the small to the big. New York's police commissioner began cracking down in July on sales of .22-caliber pistols, produced in West Germany as guns for starting races, but converted in the U.S. to lethal weapons. An estimated 40,000 were converted to sell for \$9 to \$12 each. In Argentina, a few years back, an obsolete British carrier waddled into port one day to become—for \$5-million—the pride of the Argentine Navy.

• Governments and Dealers—Generally, the type of arms sold depends on who is doing the selling and the buying. Excluding the weapons they give to other nations under defense agreements, governments are more likely than dealers to sell the more formidable and more modern weapons in the commercial market, and are also likely to sell the weapons to another government. The French government, for example, sold modern antitank missiles, Mystere jet fighters, and Vautour jet bombers to Israel during the Suez conflict. When

Fulgencio Batista was head of the Cuban government, he bought tanks and planes from Great Britain.

Commercial arms dealers, on the other hand, are more likely to be selling small bore and vintage weapons. The chief stocks of the Service Armament Co., for example, a retail and wholesale dealer in Bogota, N. J., are obsolete European and U. S. rifles. Typical weapons are the British Lee Enfield, the Swiss Schmidt-Rubin, and the U. S. Springfield '03.

Service Armament and other dealers also sell automatic weapons, such as nachine guns, but federal and state bans confine sales to law enforcement agencies, banks and armored car companies. · No Market-Although there are few legal restrictions on the sale of such major weapons as tanks, half-tracks, and even outmoded jet fighters, dealers have little interest in handling them, for a very practical reason. There is virtually no accessible market for them. On a tank or a plane, transportation charges, licensing, and insurance-plus the duty, if it's imported-would add so much to the final price that it would be too much even for wealthy collectors.

In this sort of thing, a dealer's market generally goes no further than a cannon, usually of Civil War age, that collectors can roll out on the lawn, or maybe fire off in battle reenactments.

• Wholesaling—When a dealer buys stocks he is often buying for other dealers, too. He might, for example, buy a warehouse full of rifles in any of the NATO countries that is replacing its own arms with standard NATO weapons. Then, after he brings the shipment to the U.S.—or if he purchases a similar lot here—he will sell wholesale lots to other dealers around the country.

• Price Ups and Downs—Prices in the commercial market rise and fall with demand, which in turn is often triggered by the rise or fall of governments. One Mexican government, when demand for military equipment was at a high pitch, nearly sold out the country's entire supply, air force and all, to Israelis, revolutionary groups, and gunhungry governments.

Today, with Central and South American countries relatively calm and only one fair-sized war going—the Algerian fighting—prices have fallen.

At the height of gun-running to Cuba last year the cost of carbines in Miami was \$65 to \$120. Garand rifles sold at \$100 to \$150, Enfield rifles \$37.50. A good, used Thompson submachine gun cost \$150 to \$300.

Today, a light machine gun (French) can be bought for \$19.95. An additional \$3.50 will deliver it with anti-aircraft gun sights. A carbine is quoted at \$24.95, grenades (unloaded) at a low \$3, and .45-caliber pistols at \$32.50.

Heavy equipment prices are not so



ARMS FOR CASTRO-Sheriff Kelly looks over grenade cache, found in Miami last year, for Castro forces then in rebellion.



AND AGAINST-Federal marshal leads owner of plane seized in Miami with arms believed for use against Castro government.



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MEMPHIS "... the trail from Algeria led to a Scandinavian dealer

(STORY on page 94)

well catalogued, since government controls keep deals hush-hush. But a recent quote for a U.S. F84-C Thunderjet is \$30,000; a Grumman Panther \$15,000, a MIG jet fighter \$50,000, U.S. M-48 tank \$168,000 to \$196,000. A Soviet submarine was sold to Egypt for \$1.5-

· Spotting the Markets-By far the hottest items for any commercial arms dealer are such small bore weapons as rifles and pistols, although machine guns and machine pistols are runners-up in demand. The markets for these weapons vary as much as the reasons for sales.

In the U.S., it's the hundreds of thousands of hunters, shooters, and collectors who make up the market for rifles. But in Mexico, it's male pride that makes for sales; in the Middle East, inter-Arab fends,

In Mexico, Latin America's most peaceful country, 400 registered gun dealers and an uncounted number of unregistered "armerias" operate profitably because of the Mexican's desire to own a gun. The desire is historic. Mexicans recall when the badges of a "man" were his horse and gun. Today

gun remains.

In a number of sheikdoms and emirates of the Arabian peninsula, the rulers authorize loval tribal chieftains to buy rifles and pistols for protection against other tribes.

the auto has replaced the horse, but the

· Hot Spots-Other fat markets for dealers are the hot spots of the world, where sales are made to the government in power as well as to rebels or vagrant groups of dissenters. During his revo-lution, for example, Fidel Castro was getting an average of two contraband shipments of small arms each week from sympathizers and agents in the U.S. and South America. Today, with his role reversed, Castro is still a good small arms customer; only recently bought 25,000 Belgian rifles.

#### II. Where Arms Come From

Almost any country that makes arms is a source of supply for the variety of weapons on the market today. But the arms-making countries rarely give legal sanction to exports that may feed unrest. In fact, the faintest suspicion is enough to deny a shipper a license to export. As an example of how tight a squeeze arms-making countries put on shippers, the total of all licensed commercial shipments leaving the U.S. last year amounted to only \$304,590.

Sometimes the end of a period of unrest in an area throws stocks on the market. As trouble ended in Lebanon last year, dealers were able to buy surplus French 3.06 rifles. The French had used the rifles in the Levant, had passed them on to the Syrians, who had bought Czech rifles. A number of the French rifles had been sold in Lebanon.

Again, a source of supply may occasionally be opened up by enterprising army brass. In Mexico, for example, generals and some secret service officials have at times labeled a batch of machine guns and rifles "old" although the weapons have been fired only a few times. A new batch is ordered from the arms factory-Industria Militarthen the "old" guns are sold. One result has been the appearance of Mexico's Mendoza machine gun in the middle of Latin-American revolutions.

More often than not dealers have to work through a middleman. In Algeria not too long ago, a quantity of Italian rifles turned up in nationalist hands. The French blamed the Italian government, but the trail led to a dealer in a Scandinavian country who had bought the weapons from an Italian dealer.

· U.S. Weapons Astray-Although the U. S. tries to keep its arms out of rebel or bandit hands, it is one of the world's chief warehouses, mainly because the U.S. puts a lot of military arms into other nations each year under defense programs. A percentage of the weapons finds its way into dealers' hands, and then into dealers' markets.

In Formosa, for example, where arms aid supplied to Nationalist China amounted to \$80-million in 1957, a U.S. official confides that enough small weapons are stolen from Formosa each vear to arm three or four American regiments. From Formosa the weapons-chiefly rifles-wind up all over Southeast Asia. Many of the deals are masterminded in Hong Kong, Singapore, and the Philippines. Although the Asian prefers the stubbiness of, say, a light machine gun, he generally carries a U.S. rifle since it is widely available.

· Soviet Arms-The Soviet bloc is another major world arsenal for the commercial market. Since September, 1955, it has delivered \$380-million worth of large and small weapons to Egypt, Syria, Afghanistan, and Yemen. The shipments included aircraft, tanks, troop carriers, self-propelled guns, artillery, rifles, pistols, and rockets, as well as two destrovers and three submarines. Many of the small arms, however, wound up in the commercial market after Israel swept through Egyptian territory in 1956.

Some Soviet bloc arms have entered

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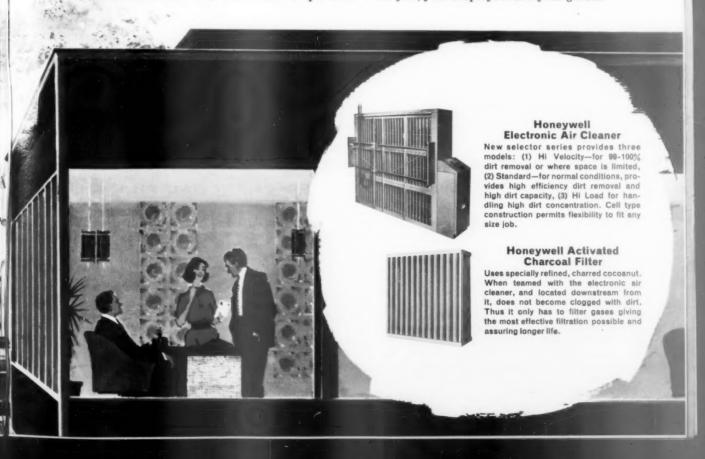
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New Industrial Buildings	14.0	3.4
New Hotels and Motor Hotels	5.8	57.0
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New School Buildings	9.2	4.4
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H First in Control



## "... in Venezuela, one arms dealer may represent as many as 20 competing manufacturers ..."

(STORY on page 94)

the commercial market directly. Secret police in the Caribbean and South American countries are certain that Russian and Czechoslovak arms dealers are working in Egypt selling to Latin revolutionaries, and they suspect this is the source of the increasing quantities of Communist-made weapons that are turning up in South and Central America. The trip to Egypt this summer of Ernest (Che) Guevara, a high-ranking Castro lieutenant, is believed to have had arms buying as its aim.

#### III. A Devious Business

The fact that the big nations of the world are the chief arms manufacturers makes the subject of arms traffic a touchy one. When questioned, the British get testy, the French get indignant, U.S. officials don't want to be quoted, and the Russians are unavailable. Though most countries maintain a highly developed export and import licensing system that applies a microscopic eye to arms and munitions shipments, evasion has raised storms of hard feelings, embarrassment, protest, and suspicion.

Algerian Gun-Running—The French are particularly sensitive. Burdened by a festering war in Algeria, they have collared a number of Iron Curtain and Egyptian cargo ships loaded with arms and headed for Tunis or for Casablanca in Morocco. The government, in fact, has drawn up a "black list" of foreign companies which it says are selling arms to the Algerian FLN. No U.S. companies are known to be listed.

The French regard private German armament dealers in Hamburg as the biggest offenders in gun-running. True or not, French observers cite a chain of events in support:

 Otto Schluter, a Hamburg arms dealer, reported he had received threats for allegedly selling arms to the FLN.
 Then in September, 1956, Schluter's Hamburg office was blown up, and an employee killed. In June, 1957, Schluter's mother was killed when his car exploded.

• In November, 1958, a German cargo ship, said by the French to be carrying arms, blew up and sank in the port of Hamburg.

Several known FLN operators in Germany have been killed.

 Last March a West German arms dealer named Georg Puchert was blown up in his car at Frankfurt.

The French deny any official connection with the German incidents, generally attributing them to the Main Rouge (Red Hand), a French terrorist band that began operating in North Africa some years ago.

• Itchy Palms—Bombs and swift death aren't the only things that make the arms business a touchy one. The bribe, one of the chief tools of gun runners, can be a source of embarrassment if not danger to a country's foreign policy. Prevalent in the arms traffic business, the bribe is a particularly potent and natural tool in Latin American countries. Says a U.S. federal agent: "They live by the 'mordida,' or the 'bite,' and can't understand that U.S. federal officers can't be bought."

It was this mistake that tripped Dominican Republic arms buyers this summer at Miami. Offering U.S. customs agents \$2,400 to let the first of \$5-million worth of arms pass, the Dominican group was arrested at Miami's International Airport after the U.S. agents had played along until they could close in.

Outside the U.S., though, the bribe works well. In Venezuela, manufacturers around the world are engaged in cutthroat competition that calls for top notch sales representatives; one arms dealer may represent as many as 20 manufacturers—though the competing manufacturers don't know this. One company that lost out in the battle for good sales representation went in heavily for palm-greasing; during the regime of Marcos Perez Jiminez it arranged with a buying official to deposit a 5% commission for him in a U.S. bank.

• Covered Trails—Few such stories ever get out, however. Generally the trails that evasion-minded dealers and manufacturers leave around the world are as lasting as a wisp of smoke. A spoken word is often all there is. Frequently enforcement agencies have only a tip, or even a suspicion, to go on.

On June 12, for example, U.S. customs agents in Miami, acting on suspicion alone, boarded a British motor vessel, the Cotton Bay, smashed open factory-crated refrigerators, freezers, and stoves, and discovered \$15,000 worth of arms and ammunition believed bound for Venezuela or Colombia. The ship's crew itself had no knowledge of the scheme.

• Loopholes—One reason smugglers can get a head start on law enforcement groups is that few laws prohibit the sale of weapons. Restrictions usually apply only against exporting or importing, although there are exceptions. At one time, mere possession of a weapon in Hong Kong, for example, meant death.

Generally, though, it's easy to buy arms. In the U.S. smugglers will avoid



### for British East Africa

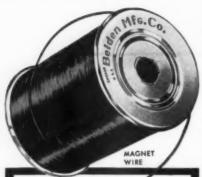
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## "... the ambassador realized a coup was intended against his government, and refused to sign . . ."

(STORY on page 94)

the big gun makers, who would report big purchases. Instead a smuggler might approach dealers in surplus government arms and equipment. Sellers of deactivated "war souvenirs" are also approached, since the parts of three deactivated weapons might add up to one or two lethal ones.

The dealer, if he cooperates, asks few questions. Nor does he check on purchasers. All he is required to do is take the buyer's name, which can be fictitious, and register it and the weapons

with the Treasury Dept.

The next step for the smuggler—if for example, he intends to ship to a South American country—is to transport the arms by truck to Florida's coast or, in recent practice, to a Gulf port. If the arms are going to a government already in power or to a revolutionary who has captured enough land to build an airstrip, a plane is the best choice, since it is swift and can be easily hidden. But if a shipment is destined for a small rebel band a boat is usually chosen, even though it is easier prey for intercepting planes and patrol boats.

• Catching Up—Few such routes develop into regular channels of trade. For almost as often as this happens, law enforcement agencies catch up with it. In Miami, police and customs agents are convinced that they've made it too hot for smugglers and that operations have already shifted to Gulf Coast ports, Mexico, and Europe. Customs, in fact, regards the recent offer of a \$2,400 bribe as something of a compliment, since it is clear recognition that smugglers need the cooperation of police.

• On the Spot—This sort of thing, the "learning curve" of enforcement officials, has made the buyer-smuggler so devious an operator that his shiftiness has occasionally put winking arms dealers on the spot. An African country, through its ministry of defense, placed an order with a West German dealer for ammunition. Since West Germany issues export licenses for arms shipments to friendly governments with peaceful politics, the German supplier put down a delivery guarantee of 25,000 Deutschemarks with the consignee—a stipulation which a number of smaller countries as well as illegal buyers demand as self-protection.

But West Germany requires the countersignature of the buying country's ambassador on a contract. At the last minute the ambassador stationed in Bonn realized the order was part of an intended coup against the legitimate government, and refused to sign. The German dealer is reportedly still chasing

his 25,000 Deutschemark guarantee.

• Upper Hand—But the German dealer's experience is an exception. Generally, the more shifty and elaborate a smuggling operation, the greater is its chance of success, even when it is known to be under way. Its advantages lie in the choice of routes it can take, the variety of methods of transport, and the ability to make choices quickly.

An international network of smugglers in the Middle East operates over a number of routes linking Cyprus, Lebanon, and the Middle East hinterland. Led by a man known as Abu Mustafa, the ring transports arms over sea, land, and air using planes, ships, cars, camels, or even a tunic. Its mar-

kets are anywhere or anyone.

Until a recent lull developed in inter-Arab feuding Abu Mustafa and his ring were serving a prime market. Stuffing small arms—chiefly pistols—among the trade goods of a camel caravan, or strapping them to the most inaccessible parts of cars, the ring had supplied dozens of Bedouin tribes with weapons. But with the lull in feuding and the recent arrest of another ring operating in Cyprus, Beirut, and Damascus, Abu Mustafa's volume has fallen off.

• Changing Policy—It wasn't always such a difficult world for arms dealers. Up to 40 or 50 years ago, most countries followed the trade doctrine of laissez-faire. In the U.S., administrations beginning with Thomas Jefferson's had always considered it a right of arms manufacturers and dealers to sell domestically or abroad. Only when war threatened the U.S. did it impose embargoes, and even then only to conserve its own supply of materials.

serve its own supply of materials.

But since 1905, when the U.S. restricted arms and munitions exports to the Dominican Republic, the attitude toward arms selling has been changing. From laissez-faire it moved to embargoes, which the U.S. invoked to promote stability, prevent civil strife, and protect American business, particularly in Central and South America.

Today, the U.S. has cast off the embargo method, instead employs a system

of licensing.

But with the wide discretion Congress has given the State Dept., licensing has almost the same effect as an embargo. The department's Office of Munitions Control will, with straight face, accept any applications for a license. But the odds are heavy against getting one for arms shipments, especially those destined for areas of unrest. In the world today most mature countries have a similar system. END

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JAMES M. HARE, left, Michigan Secretary of State, and ROBERT W. SCOTT, chief, title and registry division, ex-

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# Textile Imports Agitate Industry

The drive for protection against foreign cloth and apparel is accelerating with increasing shipments, particularly from Japan and Hong Kong.

During recent years the U.S. textile industry has fought a two-way battle -against a long-term recession on one hand and growing sales of cheap import goods, especially from the Far East, on

the other.

Now, even though cloth and apparel manufacturers are riding a sales boom (BW-Jul.18'59,p20), industry leaders are not relaxing, but instead are redoubling their efforts in the fight for import restrictions. Their reasoning: If they don't scream now, importers will find it easy to step up sales during prosperity, with the result that domestic producers will be badly hurt later on.

· Top Target-Textile imports of all kinds currently run over \$100-million a month, against an average rate of \$70-million to \$80-million in 1958. Though this is only 8% of monthly sales of U.S. mills, it's up from the 7% share of last year's smaller market. Since imports from Japan and Hong Kong account for almost 30% of the import total and enjoy the biggest price advantages, they are the major target for

protectionists.

Two years ago, U.S. textile and apparel manufacturers thought they had at least a stopgap solution to the rising flood of low-priced Japanese importsa voluntary quota system imposed by the Japanese government on cotton textile shipments to the U.S., set at 235-million sq. yd. over-all. Woolen fabric shipments were regulated by Japan's acceptance of the General Agreement on Tariffs & Trade-an international agreement signed by 37 nations. Under GATT provisions, the tariff jumps from 25% to 45% when woolen imports exceed 5% of the annual U.S. production. Made-up garments are not included in this quota, however.

Today, U.S. maufacturers do not consider these restrictions adequate. What's more, several labor unions that previously shied away from the idea of import quotas are getting into the fight. They started getting excited when Japan announced a 12-million-sq.-yd. increase in its cotton quota for this year. On top of that came a boom in imports of such non-quota items as woolen coats and suits, and a snowballing rise in textile shipments-mainly garments-from un-

regulated Hong Kong.
• Causes for Worry–Here's what has



WINDOW DISPLAY on New York's Fifth Avenue includes many garments made in Far East-symbolic of rise in textile imports that is generating clamor for effective quotas.



MADE IN JAPAN label betrays origin of jacket at left in the shop window above.



MADE IN HONG KONG label, also in window, is an increasingly frequent sight.

both manufacturers and unions worried: · Imports of textile fibers and

manufactured goods from Japan totaled \$201-million in 1958. In the first five months of 1959 they hit \$102-milliona 31% jump over the same period last year. The Hong Kong picture is even more dramatic-\$21-million through May, a gain of 163% over the five 1958 months, and almost as much as the \$24.5-million total for all of 1958.

· In particular, ready-to-wear suits and coats from Japan and Hong Kong are pouring into the U.S. at a rate of 10,000 to 20,000 a month. This isn't much compared with the 18-million suits produced here annually, but it's a brand-new threat; up to this year there was only a trickle of imported made-toorder suits. The union in the men's clothing industry, the Amalgamated Clothing Workers of America, reacted by calling for strict controls on all clothing imports from the Far East.

· Hong Kong manufacturers are unlikely to agree to any really effective quota system. Last week, a subcommittee of the Hong Kong Garment Manufacturers Union indicated that it is considering a limited quota program. But even this plan is opposed by hundreds of small producers. The Hong Kong government is also opposed because it fears that U.S. quotas will lead to restrictions on trade with Canada and Great Britain.

· Growers Join In-The impact of these changes is far-reaching, affecting

# What are the hazards of coinsurance?

from the Clients' Service Bulletin of The American Appraisal Company

Prudent property owners are concerned over the severe strain on their financial resources should they have to replace vital production facilities in the event of a disaster. Naturally, they want complete protection against fire and other hazards.

#### The 80% clause

Coinsurance offers a real inducement in that it may provide a reduction in rates ranging from 20% to 70%. The amount of the reduction depends upon such factors as type of construction, the nature of the occupancy, outside exposure hazards, and available fire protection. Coinsurance usually enables the property owner to purchase a greater amount of fire insurance for a relatively small increase in cost. To that extent it is a bargain.

It is important, however, to understand the coinsurance clause. Under it, the insured assumes an obligation to carry at all times an amount of insurance equal to a stipulated percentage of the actual cash value of his property. If he fails to do so, he shares in any partial loss in proportion to his deficiency. An 80% coinsurance clause does not mean that he will collect only 80% of any loss he may suffer. If he fulfills his obligation, he will collect in full on any loss up to the face value of the policy. If he does not carry out his obligation, he may collect substantially less than the actual cash value of his loss.

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The property owner should know the actual cash value of his property at all times and be able to prove it. Since the property and its value fluctuate from year to year, and since compliance with the coinsurance clause is determined on the basis of values at the date of the loss, he should check on his values at least once a year. By so doing, he can safely take advantage of the savings afforded by coinsurance.

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all parts of the textile industry from raw material producers to garment makers and retailers, and it is causing some shifts of opinion within the industry. Cotton growers, worrying about the export market for their cotton, once opposed restrictions on textile imports. But recently Sen. John C. Stennis (D-Miss.), considered a cotton grower spokesman, urged Agriculture Secy. Ezra T. Benson to support a plea from the National Cotton Council for more tariff protection.

Behind the switch, as the industry sees it, is the expanding world cotton supply. Growers, with their prices supported, want to keep domestic mills happy; for even though the export subsidy went up to 8¢ on Aug. 1, they won't be able to work off surpluses.

The mill owners have obtained one concession from Japan. Though the Japanese raised this year's over-all quota to 247.2-million sq. yd., they agreed not to switch goods from used-up categories to fill up unused ones. Last year this swapping accounted for about 23-million sq. yd. Still, U.S. critics sneer at this "bilateral, unilateral trade agreement which is not an agreement."

Mill owners and textile organizations tried to get further help by asking the Office of Civil & Defense Mobilization to protect the mills with tight quotas because of their "defense essentiality." OCDM turned them down.

• Garment Threat—The squeeze from expanding imports is pinching garment makers especially. Some segments of this industry—notably shirt, underwear, and pajama makers—have been hurt for several years. But it's the new threat to tailored clothing that really has the industry worried and has aroused the Amalgamated Clothing Workers.

Amalgamated Clothing Workers.

The union knows that even relatively modest imports of suits, coats, and pants will force out of business some of the many small ready-to-wear firms, which operate on a very small profit margin, often under 1% of sales. Besides this job loss, it fears its gains in wages, working conditions, and job security will be undermined. Wages of 10¢ an hour are reported in Japanese and Hong Kong clothing factories, and even less for home work.

Garment makers hope to use the \$19-million worth of cloth they bought from Japan last year as a counterweapon to persuade the Japanese that a gamble in the suit business is endangering this sizable trade. Many observers doubt the Japanese will see it that way.

Unions and manufacturers blame much of their trouble on a steady rise in overseas buying by mail-order houses, chain stores, and big department stores. Such companies as Sears, Roebuck and Montgomery Ward, stores like Macy's and Gimbels, and many others often use Far Eastern goods (not necessarily

## Cover the Southeast

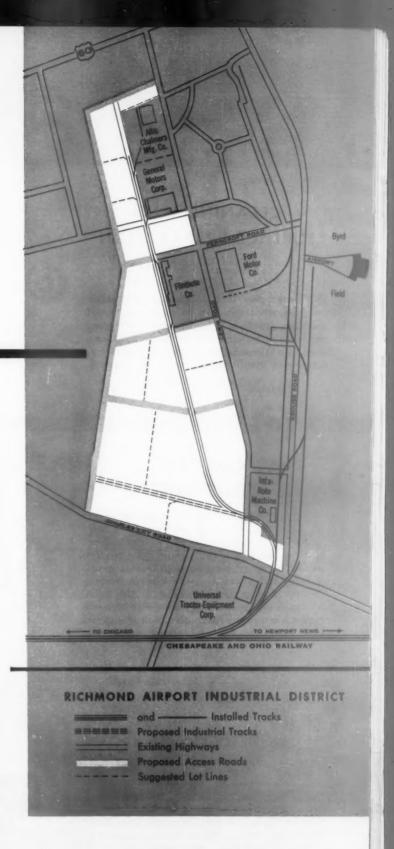
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Richmond, Virginia, with its radiating network of rail lines and highways, is the logical distributing point for the fast-growing Southeast. And the Airport Industrial District is the logical location in Richmond. Such companies as Ford Motor, Allis-Chalmers, Universal Tractor-Equipment, Flintkote, Intra-Roto Machine and General Motors have chosen it as their distributing point for the Southeast territory.

Transportation: On the mainline of the C&O with fast, direct service to the Midwest. Spur tracks are installed as indicated and others will be built when needed. Only 70 miles to the convenient and economical Atlantic Coast port of Newport News, with frequent sailings to all parts of the world. The District adjoins Byrd Field, Richmond's commercial airport.

The Industrial District covers 200 acres, level and well drained, with all utilities available. It is only five miles from downtown Richmond.

Come visit the thriving Virginia area soon. You'll like what you see. For full information about this Industrial District and other available sites in Virginia write or phone: Wayne C. Fletcher, Director of Industrial Development, Chesapeake and Ohio Railway, Huntington, West Virginia—Phone: JAckson 3-8573





#### Chesapeake and Ohio Railway

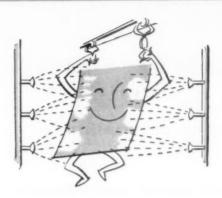
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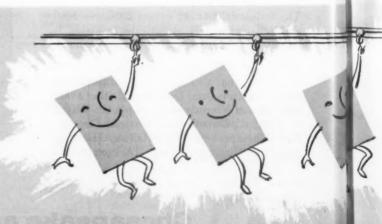
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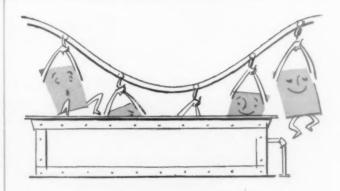
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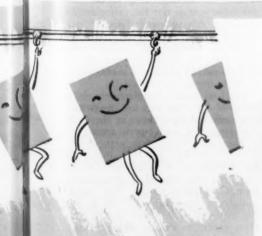
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billed as such) for sales and special promotions. U.S. manufacturers accuse them of encouraging the buildup of a new ready-to-wear industry that will wreck the domestic industry.

The Amalgamated Clothing Workers got something to cheer about last week when Walter Brower, impartial chairman of the men's clothing industry, ruled that Ripley, Howard, and Crawford Clothing chains violated union contracts by buying German-made coats. Although the action only bars manufacturers with union contracts from buying overseas—wholesalers and other importers are not affected—the union feels it gives a psychological boost to their whole anti-import campaign.

In women's apparel, imports have had a dramatic effect in some areas. For all practical purposes, the low-priced blouse industry has been out of business since the Japanese flooded the market with \$1 blouses a few years ago.

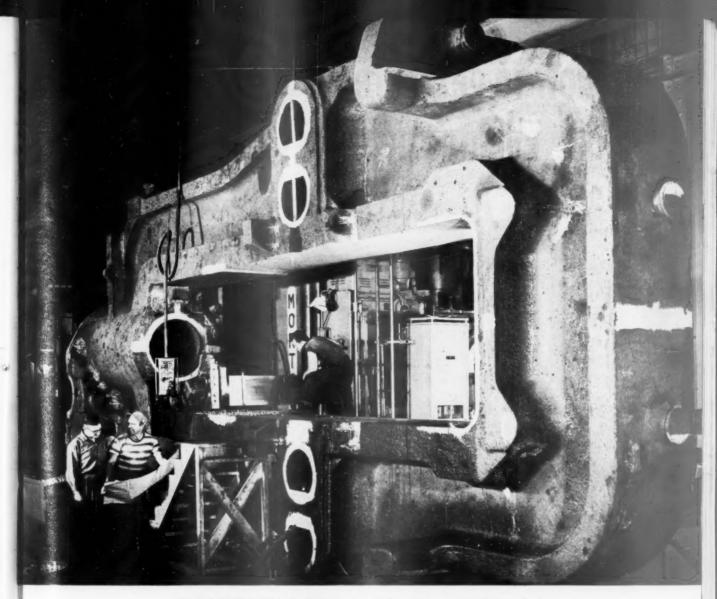
In most other women's wear, rapidly changing styles form a protective barrier. The Japanese are handicapped by lack of experience with U.S. style changes which makes mid-season reordering and fast deliveries important. Both Japanese and Hong Kong manufacturers have better luck with shelf items—corsets, brassieres, gloves. So far, the women's apparel industry and the International Ladies' Garment Workers Union have been watching anxiously, but maintaining a reserve in public statements.

• Fighting Back—While the rising wave of protest against textile imports has the Japanese and Hong Kong industries worried, it is not really a surprise to them. But they do feel that one of the major arguments against them—that they can compete only because of starvation wages—is unfair.

On certain types of cotton flannelette, for example, the Japanese say that over 75% of the cost is the raw materials. Since they can get cotton for 20% less than U.S. mills—often subsidized American export cotton the labor cost is not the major reason why they can undersell domestic producers. Besides, they argue, when Americans say Japanese workmen earn 15¢, they are forgetting other things such as welfare funds and medical care Japanese companies provide.

In Hong Kong, manufacturers claim many of their factories are newer and more efficient than those in the U.S. And some American experts agree.

They also argue that without extensive trade with the U.S. there will be no work for many of the millions of people who escaped to Hong Kong from Communist China. The textile industry is now raising \$50,000 to pay the expenses of a British public relations expert to explain Hong Kong's case in the United States. END



300,000 POUND STEEL CASTING receives final machining at Blaw-Knox's Wheeling, West Virginia, works. It is one of twin units forming a giant steel mill stand.

# Steel castings—Industry's massive building blocks... Blaw-Knox has world's biggest

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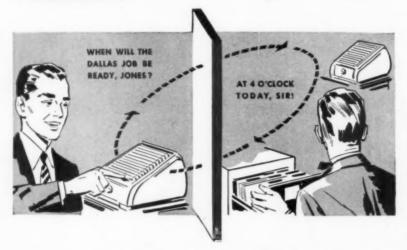
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#### Polar Jet Route

It's one of the principal issues in the scramble for new trans-Pacific air routes, now before CAB.

International airlines have always known that the shortest distance between two points on the globe is an arc. From any city in the U.S., for example, it is more logical for a Tokyobound flight to fly over Alaska than over Hawaii. But the relatively short range and low operating ceilings of aircraft have forced airlines to take the long way around to avoid mountain ranges and turbulent weather and to refuel.

Today, the high-flying, far-ranging jet has made island-hopping and fair-weather flying an unnecessary choice. A Boeing 707, for example, is capable of flying above any mountain range and above most weather. Able to range as many as 5,000 non-stop miles, it can cut in half the flight time between a West Coast city and Tokyo.

The fact that the jet can do this, and the fact that Pacific airline traffic has increased eightfold in 10 years, has two U.S. airlines—Pan American World Airways and Northwest Orient Airlines—jostling hard for major changes in their routes. Chief opponents in the Trans-Pacific Route Case, in which 15 airlines are asking the Civil Aeronautics Board for new routes or extensions of old ones, Pan Am and Northwest are the only U.S. airlines holding polar routes.

• Pan Am's Bid—Contention between the two begins with the West Coast gateways their present certificates require them to use. Pan Am must fly out of San Francisco and Los Angeles on its polar, or Great Circle, route to the Orient. If its planes leave from the other major gateways, Seattle and Portland, they must fly via Honolulu.

Pan Am labels its polar route "impractical." It contends that Great Circle service from the two California gateways is not possible without access to Seattle and Portland and the traffic they generate from Midwest and Eastern Seaboard cities. Thus, Pan Am has refused to operate its polar route. Instead, it has petitioned repeatedly for the shorter routes from Portland and Seattle.

More significantly, Pan Am is also asking for permission to operate directly from principal cities in the eastern U.S. to the Orient, with a single stop at Fairbanks, Alaska.

• Northwest's Position—Northwest would lose the most if Pan Am's long-reaching proposal gets CAB approval, although Pan Am's plan for direct service from the East would also divert traf-

# SPECIAL

#### BIGGEST CONSTRUCTION JOB SINCE THE BEGINNING OF TIME

See report on following two pages





Super-tough steel dozer blades chew out



Sheep's foot rollers with hardened steel prongs pack down the roadways



Shovels ram through rock without breaking their extra-tough steel teeth



#### ... 60 times bigger than the Panama Canal...

and it's being built by gamblers

Here are some thumbnail sketches of the men who are building the 41,000 miles of Interstate Highways scheduled for completion in 1971.

Shirt-sleeved cartographers paw through stacks of aerial photographs and gather information to be fed into a giant computer. They end up with a set of incredibly accurate contour maps to plot an invasion of our own country —with modern, four-lane highways.

. . .

On the shoulder of a hill, four truckmounted drilling rigs probe the rock and soil beneath them. The trucks are only 100 feet apart, but each belongs to a different road-building contractor. They are seeking information to prepare bids for the grading contract, and each wants to know how much earth or rock he will encounter.

A hard-hatted construction worker scratches the latest tally mark on the side of the shanty with a chalky stone. That makes the 87th rattlesnake the brush-clearing crew has killed in the last 14 days.

Charlie Waller looks down at a pack of fox hounds owned by a farmer who won't let any grading machinery on his land come hell or high water. The land has been in his family for 160 years. "There's the best dog of the lot," Charlie points. The farmer looks at him with sudden admiration. One hour later machinery is moving across the farm land and the farmer and Charlie are planning their first hunt.

Bill Burton stands listening to the ching-ching-ching of the steel helicopter blades as they chop through the air. Then he crawls into the whirlybird and flies off to make an aerial survey of 600 acres of land that his employer bought to get "the borrow"—earth and rock needed to fill in a huge hole.

In a small motel, squat, muscular Frank Holloway sits cross-legged on his bed amid a pile of large geological survey rnaps. He thumbs a book so old that it crackles in protest as each page is turned—a 1909 geological study published by the state. He's looking for a huge deposit of hard rock for the road subbase, and a million dollars could ride on his ability to find it.

Seventy-five feet up on a cliff, the operator of a power shovel, weighing 100 tons, crowds his tough steel bucket into the green shale face. Suddenly the ground crumbles and the shovel tilts. Scarcely breathing, the operator inches the big rig away from disaster. Soon he's forgotten about the incident but

the perspiring foreman hasn't. It takes a lot of time and money to rescue equipment that's fallen off a hill.

The sunburned job superintendent watches the pans (scrapers) roar down the slope at 35 miles an hour piled high with 25 tons of red earth. If the candywagons (oil and grease trucks) do their job, if there aren't any mishaps, if it doesn't rain, maybe they'll get up to grade far enough that he can go home for the weekend. His wife and family are 500 miles away and it's been four weeks since he saw them.

The foregoing stories are true, and they happened to men who work for the Nello L. Teer Company, one of the largest heavy contractors in the world. The company is not headquartered in New York or Chicago or any other city that you would expect. Home offices are in Durham, North Carolina—famous for cigarettes and Duke University.

From mules to millions. Mr. Nello Teer started in 1909 with a team of rented mules, and he's so proud of it that a span of those independent animals are still part of the company trademark. Like all contractors, Nello



Crawler treads made at low cost from special steel shapes



Bigger, brawnier machines made from high-strength steels move mountains faster



Hardened steel discs cut up the big chunks to smooth the roadbed

was a gambler, and he threw his money on the best prospect and replaced the mules with gasoline-powered steel machines as soon as they became available. As soon as rubber-tired machines. became available he bought them too, because they could go 25 to 35 miles an hour and haul more dirt and rock in a given length of time. As a result, Teer could cut his costs, underbid his competitors, win more contracts, make more money and grow-to the point where he now has about 2,000 employees, tens of millions of dollars worth of construction equipment and a reputation for honest work and fair prices that are the envy of the industry.

Honor. In fact, the very industry that he competes with has honored Nello Teer, Jr., the founder's son, with the presidency of the American Road Builder's Association. It's a long way from a pair of rented mules to becoming the spokesman for a multi-billion dollar industry.

Price vs. cost. In this day of rising costs, one of the stunning aspects of the heavy construction business is the fact that it costs about the same to move a cubic yard of earth today as it did 50 years ago. This is due strictly to mechanization. Here emerges a situation in the construction business that is hard for the layman to comprehend: costs have very little to do with prices. For example, you can buy 600 mules for the price of one big truck, but the truck will still move dirt more cheaply than the mules.

Best costs less. This is one reason why cost-conscious contractors dislike cost-plus contracts. If you hit a wet cut, and it fills with water, you naturally have to pump the water out. An accountant wants you to buy the least expensive pump. But the contractor, if he were using his own money, would very likely buy the most expensive pump. He knows it will do the job faster, with less down-time for repairs,

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ny llo and will require little preventive maintenance. It costs less in the long run.

Tough Steels. The same thing applies to steels. Big shovels crash into frozen earth and rock at subzero temperature . . . if their booms don't crack, chances are USS TRI-TEN Steel gives them low temperature toughness. Huge earth haulers move more dirt faster because USS MAN-TEN Steel's strength helps lighter, stronger units do more work per man hour. USS COR-TEN Steel's exceptional resistance to corrosion keeps equipment out of the maintenance pit longer. A remarkable newcomer, USS "T-1" Constructional Alloy Steel is three times stronger than regular carbon steel, retains its toughness at 50below-zero, and can be welded in the field without fancy equipment. It's so strong it is used in lighter sections. Because there's less dead weight, "T-1" equipment carries more payload, often with less horsepower. All these special steels cost more to begin with, but far less in the long run.

Now about 2009... The design of construction equipment has been revolutionized by many extra-strong steels that have been introduced by United States Steel. Construction equipment manufacturers have welcomed the new steels with open slipsticks, designing bigger, faster, longer-lasting machines. If these manufacturers, and outfits like Nello Teer and United States Steel have anything to do with it, it will cost the same, maybe less, to move a yard of dirt in 2009 as it does today.



Extra-strong steel cutting blades keep dozers on the job

Crashing impact does little damage to highstrength steel truck bodies





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fic from domestic carriers that feed the West Coast gateways.

Already authorized to operate over the polar route from Portland, Seattle, and Chicago. Northwest is countering Pan Am's proposal with one of its own. Essentially, it would put Northwest planes over routes that Pan Am flies.

That would get Northwest into the lucrative markets between California, Hawaii, and the Orient. Under current authorization. Northwest cannot fly to the Orient through Honolulu, nor can it originate polar flights from California. In reply to Pan Am's proposal to CAB, Northwest retorts, "Pan Am wants to divide our 30% with us."

Privately, though, both airlines agree that some sort of swap can be made, with CAB approval. Each is willing to let the other in on some of its Pacific routes. Pan American, for example, might not oppose a Northwest application to fly to the Orient via Hawaii, but it would object strongly to letting Northwest in on a polar route originating in California.

• Old Sores-The dispute between the two airlines began in 1946 when Northwest got the first of a series of temporary certificates to fly the polar route from Seattle and Portland. Each time the certificate has expired, Pan Am has renewed its own petition, but without

Both lines have carried on, for the record, a sharp-keved debate. Northwest charges Pan Am is already too big when it carries more than 60% of all U. S.-flag international traffic.

Pan Am, in turn, says Northwest provides inadequate service, flies inferior equipment, and has failed to develop the polar route.

• Foreign Competition-Several things have kept the squabbling alive. Foremost, of course, is Pan Am's persist-ence. Recently, though, increases in Pacific traffic have caught the eve of the Eisenhower Administration. Last January, the President asked CAB to study the entire trans-Pacific route structure. With the request went a reminder that the White House favors a policy of "competitive American flag service . . . on international routes serving major gateways." In addition, the President asked the board for a recommendation at an early date.

One other factor emerges strongly, too. Foreign-flag carriers are competing hard. Ten years ago, U.S. airlines carried 91% of the traffic, today carry only 67%.

Foreign lines, meanwhile, are serving notice that they are after higher gains. Just recently Qantas Airways and British Airways Corp. and British Overseas Airways Corp. got permission to cross the U.S. on international flights and Japan Air Lines announced jet service in the Pacific. END



#### New station stockpiles gas in 90 wells

At McArthur, Ohio, a new Dravo-built compressor station is helping Ohio Fuel Gas Company meet everincreasing gas requirements in Central and Northern Ohio areas.

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The facility is a key link in the Company's northbound transmission system. In addition, the station pumps gas into 90 wells in a 12,000-acre underground reservoir. During peak load periods, Ohio Fuel draws on this 101/2-billion cubic foot capacity

storage supply to meet the needs of its customers.

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BRITISH VOTERS gave Conservatives a clear margin over opposition Laborites in Gallup poll preview of general election Oct. 8.

## Macmillan Sees Another Victory

Britain's Conservatives are going into next month's elections convinced they will get a nationwide vote of confidence.

To Prime Minister Macmillan, one of the cagiest politicians in recent British history, a Conservative election victory on Oct. 8 seems almost sure. Indeed, Macmillan and his party, as well as the majority of British businessmen, are confident of the outcome. They are confident, too, of the continuation of the kind of prosperity Britain has experienced over the past year.

The feeling is shared by most political dopesters in Britain. Only a minority of these experts sees any chance of a Conservative upset such as the U.S. Republican Party suffered in the 1948 elections. Such an upset-if it should occur-would probably rock the boat in Britain economically, for a while at

959

· Conservative Virtues-Macmillan has good reason for his confidence. He is leading his party into the election with some real advantages:

· A legitimate claim to "peace and prosperity" as an election slogan-as good a one as a Conservative Party in

office can hope for.

· A well-organized party machine built up by R. A. Butler-who holds unofficial title of Deputy Prime Minister -and a Cabinet that not only boasts such talents as Chancellor of the Ex-



MACMILLAN has played up "peace and prosperity" theme as Prime Minister and Conservative leader. He clearly is confident of another Conservative victory at the polls.





HEATHCOAT AMORY as Chancellor of Exchequer held down living costs while production and employment have been expanding.

R. A. BUTLER as Macmillan's righthand man has helped build a smooth Conservative Party machine.

BUSINESS WEEK . Sept. 19, 1959

Business Abroad 123



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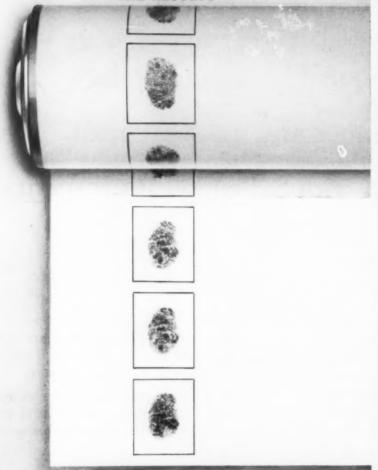




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American Cyanamid Company - Dyes Department - Bound Brook, N.J.



HUGH GAITSKELL is moderate Laborite who is leading party in uphill struggle.

chequer D. Heathcoat Amory, but also gives the general impression of cheerful efficiency.

 An opposition party led by a moderate, Hugh Gaitskell, but with rank-and-file members still hankering for the crusading socialism of earlier days.

• A sizable lead over the Labor Party in the most recent Gallup poll— 47% of the vote against 39.5% for Labor and 6% for the Liberals.

• Accent at Home—Macmillan in his first shot in the campaign drew on his foreign policy role—in cooling off the Berlin crisis and setting the stage for the Eisenhower-Khrushchev exchange of visits. Macmillan asked the British people a blunt question: "Who will represent you at the summit, Gaitskell or I?" There's no doubt that Macmillan counts on his apparent success at "summitry" to offset Labor charges that he shared in the Suez fiasco and that peace would be safer in Gaitskell's hands.

#### I. Prosperous Economy

Despite this beginning, domestic affairs will dominate the campaign and the election results. The Conservatives are standing mainly on their economic record. "Life is good under the Conservatives," says a typical campaign poster showing a cheerful family watching a new small car. Fortunately for the party, Britain's recent recession is about over. Unemployment has steadily fallen over the past few months. And a fast expansion of installment credit is filling British homes with electrical appliances and garages with new cars.

The Conservative election platform bears down heavily on this prosperity theme. It promises that the Conservatives will keep the cost of living steady in the interests of the average houseFriden Creates

A New World

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# Automation Dollar Minger package 1

**Model CTS** integrates

data processing



NEW!—an automation heart for your office!

Friden's tape-talking COMPUTYPER® Model CTS takes over the big office routines such as preparing invoices, sales orders, cost analyses, inventory...does more of these jobs automatically than ever before! By-product punched paper tape provides data from original writing to meet all needs without manual re-processing. Around this key automation unit your firm can plan, and expand, your own custom-built integrated data system, slash paperwork costs.

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Repetitive chores such as invoicing constitute a major workload and cost in every office. Yet these very chores, the volume routines, are the easiest of all to handle automatically with a Friden system. All Friden equipment is relatively low in cost and individual units can be combined to meet the special work-flow needs of any type office. Start with one Friden unit, then add another and another as each pays for itself! Friden automation units range from the astonishing Tape-Talk machines-the Computyper®, Flexowriter®, Teledata® and others of this group - to the brilliant Friden Calculator, The Thinking Machine of American Business, and Friden Natural Way Adding Machines.

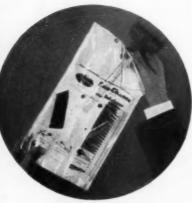
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Automatic office operation is the Friden function — Call your Friden Man or write Friden Inc., San Leandro, California...sales, instruction and service throughout U.S. and the world.



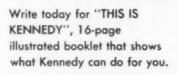
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This National Prize Winning Package for combination snow brush and scraper sells for National Brush Co., from coast to coast.



when you need flexible packaging in Krinkle Kraft, Clupak, Kraft, Plastic Film, Foil, or combinations of these materials, CALL KENNEDY FIRST.

KENNEDY CAR LINER & BAG CO., INC. 1000 Prospect Ave., Dept. J Shelbyville, Indiana



\*Imaginative engineering in flexible packaging.





NYE BEVAN attracts radical Laborites, will be Foreign Secretary if party wins.

wife. At the same time, it stresses the party's success in strengthening the pound sterling and in keeping British goods and services at prices the world will pay. In short, the manifesto claims, the Conservatives not only have brought prosperity, but can assure the party's aim of doubling living standards within a generation.

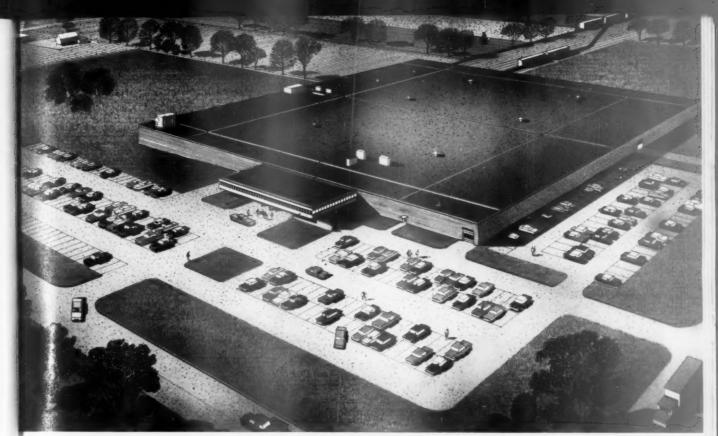
• Labor's Tack—By running on such a platform, Macmillan is trying to play it safe and keep the election from getting too hot. But it's not clear whether Labor will let him get away this. Labor leaders may decide to make it a political free-for-all, relying on the verbal punching power of men like Aneurin ("Nye") Bevan, who would be Foreign Secretary if Macmillan's applecart is upset.

Labor opened its attack by condemning "industrial stagnation" under the Conservatives and promising "planned expansion." Labor leaders also lashed the large tax-free capital gains made by only a few Britishers over the past few years, contrasting these with most people's highly taxed and slowly rising wages and salaries. A capital-gains tax on the U.S. model, plus a promise to correct abuses in business expenses, are both in Labor's program. Nationalization, which used to be the Party's main theme, is barely mentioned now.

On foreign affairs, Gaitskell and Bevans are claiming that they pioneered the road to the summit. They are trying to convince the British electorate that they would be better guardians of British security than Macmillan.

British security than Macmillan.

• After Victory—If the expected happens and the Conservatives win, Britain can look for a continuation of familiar policies—a gradual lightening of taxes to encourage business expansion (high bank rates will be kept in reserve for use whenever restraint is needed, and more incentives for the individual who



Spartan Stores' efficient new distribution center, on a 36-acre tract which New York Central helped them find.

#### "Where?" asked Spartan Stores "Here," replied New York Central

Spartan Stores is a wholesale buying and distributing organization, owned by the 500 independent retail food stores it serves.

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When Spartan's growth demanded greatly enlarged facilities, its management resolved that the new plant must be the last word in efficient planning. For advice on location, they turned to New York Central's Plant Site Consultants.

After analysis of where in-shipments came from, and where out-shipments went, along with many other considerations, Central recommended this 36-acre plot on the outskirts of Grand Rapids. Spartan moved in earlier this year and finds the location as ideally suited to its needs as is its new plant.

There is storage space for 1,250,000 cases of groceries. The refrigerated areas provide 400,000 cubic feet for frozen foods; 360,000 cubic feet for perishables. A railroad siding runs into the huge building, and twenty-four cars can be unloaded simultaneously.

Plant site selection calls for the help of experts on many subjects-transportation, taxes, utilities, labor, water, ground conditions. Often you need the confidential services of someone who knows the community. All this is freely available to you at the Central.

Write to: Otto W. Pongrace, Director of Industrial Development, Dept. C, New York Central Railroad, 466 Lexington Ave., New York 17, N. Y.

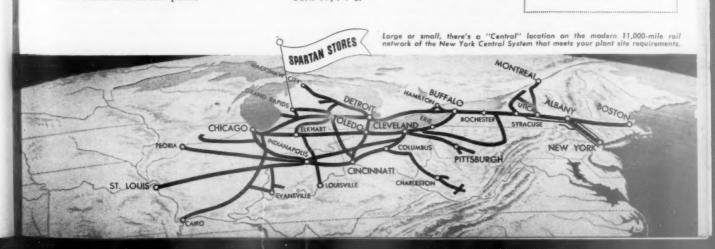
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#### and KEYSTONE WIRE

Your newspaper met its deadline because Keystone Wire performed flawlessly. Folded newspapers ride from the high-speed press between endless coiled wire spring belts made from specially processed Keystone Music Spring Wire. The flexibility in the design of the Cutler-Hammer conveyor with its coiled springs permits turns and bends as required by the installation. It is for this reason that Cutler-Hammer uses Keystone Music Spring Wire.

Keystone Music Spring Wire is successfully used in many other applications requiring high quality, high strength and extreme fatigue resistance.

This same kind of production advantage and customer acceptance can be of value to you and your product. It only takes a telephone call to your Keystone representative to learn the details.

Keystone Steel & Wire Company, Peoria 7, Illinois







JO GRIMOND heads Liberty Party, which hopes to start comeback in this election.

wants to get ahead. It's also likely that a reelected Conservative government will launch an inquiry into union relations with individual members and union responsibilities toward the public. In his first election speech, Chancellor Amory declared that "the supreme election issue is the choice between freedom and opportunity for the individual and the all-pervading power of the bureaucratic socialist state."

One problem the Conservatives will have to tackle-though they aren't mentioning it now-is how the nationalized industries, especially the railways, are to get their capital for modernization and

expansion.

The Conservatives could continue to provide this capital (and often funds to cover deficits) from the government till. Or they could let the price of nationalized services rise to the point where government-run corporations can go to the market for their capital on competitive terms.

 Liberal Complication—Many Britons -including most Laborites-refuse to take the Conservative victory for granted. They make this case: Macmillan could be upset by a mere 3% swing in the total vote. This isn't impossible, especially since the election could be decided by the fate of about 60 marginal seats, which the Conservatives narrowly won last time.

#### II. Shifting Loyalties

The election, in any case, will be complicated by the appearance of far more Liberal candidates than in any previous postwar poll. The Liberal party is shooting for a big comebacknot in this election but in future ones.

So far, Liberal policies as expressed by party leader Jo Grimond have been ill defined. The Liberals seem to aim



the impossibility of operating our modern community without proper liquid moving equipment. Pumps of all types and sizes are operating 24 hours a day, moving the "life blood" of our social and business society.

Considering the necessity of reliable liquid handling in industry, we think you would find it advantageous to use "Buffalo" pumps for your important liquid handling jobs. Your "Buffalo" Engineering Representative will be pleased to call at your convenience, or write direct for more information.

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#### BUFFALO PUMPS DIVISION OF BUFFALO FORGE COMPANY

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A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

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Sales of Case industrial machines have increased over 500% in 3 years—ahead of any other major company in the industry.

CASE

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Worldwide Sales and Service

"... the industrial working population is pretty well satisfied with things as they are ..."

(STORY on page 122)

at maximum scope for the individual but with reservations about the private enterprise system. The Liberals apparently want more central economic planning and side with Labor in asking for an extension of the welfare state.

This time, the best the Liberals can hope for is to increase their present six seats in the House of Commons to nine or ten, but they could double their popular vote. (Conservatives now hold 339 seats in the House of Commons; Laborites, 278.) That would help make them respectable again as a party and bring an influx of party workers and candidates. Meanwhile, their intervention is expected to take twice as many votes away from the Conservatives than from Labor-something that could prove extremely important if the Callup poll should be over-estimating the size of the Conservatives' present margin in popular appeal. · Changing Tone-In one other respect, past election experience could be a misleading guide. The social basis of both the big parties has been gradu-

ally changing.

In the postwar years, the Conservatives have become mainly the party of business; the aristocracy and other upper class groups have faded into the background. The Labor Party can no longer count on a solid "working class" to back it in fighting for the equalization of wealth and opportunity. With full employment, an elaborate system of social services, and a big rise in income, a large part of the industrial working population is pretty well satisfied with things as they are.

Surveys show that around 3-million British workers now have family incomes and spending habits comparable with those of the middle class. Most of this group probably will vote Labor—mainly out of habit. But a fair number undoubtedly will shift their allegiance to the Conservatives. Certainly their interest in old socialist ideas is pretty well gone. And for all his efforts, Gaitskell has been unable to modernize Labor's policies to conform with this basic social change.

In fact, if Labor should be defeated rather badly, the party might slowly break up. Part of the left wing might eventually join Britain's small Communist Party or form a new radical socialist party. The bulk of the Labor Party membership might well drop socialism and join with the Liberals in a new progressive center party. END



# NEW BENDIX AUTOMATIC MACHINE TOOL CONTROLS STRETCH TAXPAYERS' DOLLARS ON F-105

The all-weather F-105 Thunderchief Fighter-Bomber is reputed to be the world's most powerful one-man aircraft. Built by Republic Aviation for the U.S. Air Force, the F-105 travels at twice the speed of sound and is one of Uncle Sam's most potent weapons.

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rop s in Republic machines wing spar caps and fuselage formers for this supersonic guardian of the skies—faster,

better and at lower cost through the use of a unique Bendix Numerical Control System. This System bypasses completely the costly, conventional, timeconsuming steps of fashioning templates and patterns. Under the Bendix System, every movement of the milling machine is automatically controlled by a punched tape containing all dimensional information and milling instructions.

The facts speak volumes for the savings and improved quality that result. For example, the big spar cap shown below required 1500 hours tooling and 27 hours machining by conventional methods. With Bendix Numerical Control, Republic cuts time required 58% and 68%

respectively. On the fuselage former, this advanced System cuts machining time from 8.06 hours to only 2.16 hours—a saving of 73%! Other important advantages of the System include greatly improved surface finishes and closer tolerances.

In fact, teamed with modern machine tools made by Kearney & Trecker, Excello, Pratt & Whitney, Heald and Sundstrand, this unique

System is now shrinking costs and shortening production time for most of the prominent aircraft and missile manufacturers.

Besides Bendix Numerical Control Systems, we make a wide variety of automatic measuring devices; special machine tools; classifying, segregating and assembling machines.



Huge spar cap for F-105 fuselage automatically machined in over 50% less time.



Kearney & Trecker 3-axis milling machine with Bendix Numerical Control System.

A thousand products



a million ideas

#### In Business Abroad

#### Brazil's Foreign Exchange Picture Turns Rosy, Bolstering Hopes for Loan

Like a roller coaster, Brazil's foreign-exchange earnings can dip abruptly, then suddenly rise. Now-with a speed that Rio officials hardly thought possible earlier this

vear-earnings are climbing fast.

Rio had predicted a \$300-million deficit in its balance of payments for 1959. But after toting up the balance sheet so far, the Superintendency of Currency & Credit finds a deficit of only \$57-million for the first half of this year. With Brazil's trade picture rapidly improving, Rio officials are predicting a mere \$100-million payments deficit for 1959.

That should bolster Rio's bargaining position in negotiations with the International Monetary Fund for a loan package of between \$300-million and \$400-million (BW-Sep.12'59,p132). In talks with Rio officials last spring, the IMF argued that any loan would partly depend on radical reforms of Brazil's complex foreign-exchange system aimed at correcting the payments deficit.

The decline in Brazil's deficit stems largely from rising coffee sales. The company now is playing rough with African competitors who have dominated the U.S. instant-coffee market. Latest Brazilian deal: direct sales of 600,000 bags of low-grade coffee at a price below

Brazil also is pushing trade with the Soviet bloc. It has just clinched a deal with Communist Czechoslovakia for \$37-million worth of electric-generating equipment—70% payable in coffee shipments.

#### Egypt Cools Toward Soviet Bloc Trade; Iraq, Barter, Re-Exports Among Causes

Egypt's trading romance with the Soviet bloc was

nice-while it lasted.

Cut off from Western markets after the 1956 Suez crisis, Egypt warmed to the idea of closer economic relations with Communist counties. It would exchange cotton, the leading export earner, for Communist arms and capital goods. By last year, Communist countries—primarily the Soviet Union, Czechoslovakia, and Red China—were buying two-thirds of Egyptian cotton exports.

Now trade, at least on Egypt's side, is cooling off. Cairo opposes Soviet efforts to gain a strong foothold in Iraq. At the same time, it wants to diversify its markets and get the West's help in building Egyptian industry. More important, Cairo evidently is fed up with Soviet-bloc trading practices. Key example: For the past three years, Czechoslovakia has re-exported Egyptian cotton to Western countries at 10% to 14% below world market prices.

Cairo is taking stern measures to revive—as one Egyptian puts it—"more natural practices of trade exchanges." Main decrees include banning barter transactions and re-exports of raw cotton, yarn, and textiles. Cairo also is tightening control over the Cotton Exporters' Assn. and planning to open promotion offices for Egyptian cotton in Western countries.

#### Production Cuts Planned to Ease West Germany's Coal Glut

West Germany's coal industry, saddled with uneconomic mines and increasingly stiff competition from fuel oils, is preparing to cut output sharply.

Its plan, submitted to Economics Minister Erhard,

calls for:

Closing of some 12 to 15 uneconomic coal pits.
 Cutbacks in output from 130-million tons yearly to around 122-million tons.

· Layoffs of miners to reduce the labor force from

300,000 to 250,000.

Even if this plan goes through over a two-year period, it may not solve the coal glut. For production of fuel oils is climbing and cutting into coal sales. The coal industry is pinning its hopes on a proposed \$7-per-ton tax on fuel oil. Despite strong opposition, Bonn is likely to approve the tax next month.

As a further step to bolster trade, Cairo is pushing exports of yarn and textiles. Raw cotton's share of total exports already has dropped from over 90% to 75% in the past five years. Soon, say Cairo officials, the percentage may be as low as 60%.

#### State-Run Oil Company in Italy Eyes Britain's Gasoline Market

"I am not a man who walks slowly," said Italy's Enrico Mattei during a three-day visit to London last week.

President of ENI (Ente Nazionale Idrocarburi), the Italian state-run oil company, Mattei has proven to be a maverick in the international oil industry. In Italy, he has grabbed potentially rich oil fields for ENI—at the expense of such private companies as Gulf. In Iran, he has helped break the old 50-50 formula for splitting profits between the government and private companies. Recently he has been blueprinting two pipelines from Northern Italy to West Germany.

Not a man to walk when he can run, Mattei now hopes to bust into Britain's highly competitive gasoline market. His project includes building a refinery and organizing a chain of service stations (under the AGIP label used in Italy). Mattei claims he does not plan any marketing tie-ins with oil companies already operating in Britain. But in view of his discussions with British financiers and bankers last week, it looks as though Mattei is angling for some help from the City—London's financial district. ENI probably will begin market research in Britain during the next month. That's the "main problem" in ENI's plans, says Mattei.



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Bog holes or broken ground, INTERNATIONAL six-wheelers pull through. Husky V-8 engines up to 549 cu. in. give ample power, higher road speeds!



so are some trucks!

Premium-built diesel models are powered for mountain grades, and to make time on the straight-away. Lightweight design means greater payloads!



New, low-cost Metro-Mite® has integral sturdy construction, economical 4-cyl. power.



International pickups with 4-wheel drive are champions of the 'broken field' runners. V-8 power, too!



Sturdily built Travelall® takes eight or a truckload of equipment to any work site.



New compact-design models handle bigger vans, maneuver easier in traffic. Tough V-8's or "sixes,"

Their name? INTERNATIONAL Trucks.

You'll see them on the toughest jobs. Hauling the heaviest loads . . . keeping the tightest schedules . . . and staying at it the tongest.

International Trucks are a tough breed . . . and owners show their approval by making them a heavy-duty sales leader year-in and year-out.

If you need a truck, get a tough one . . . see your International Dealer.



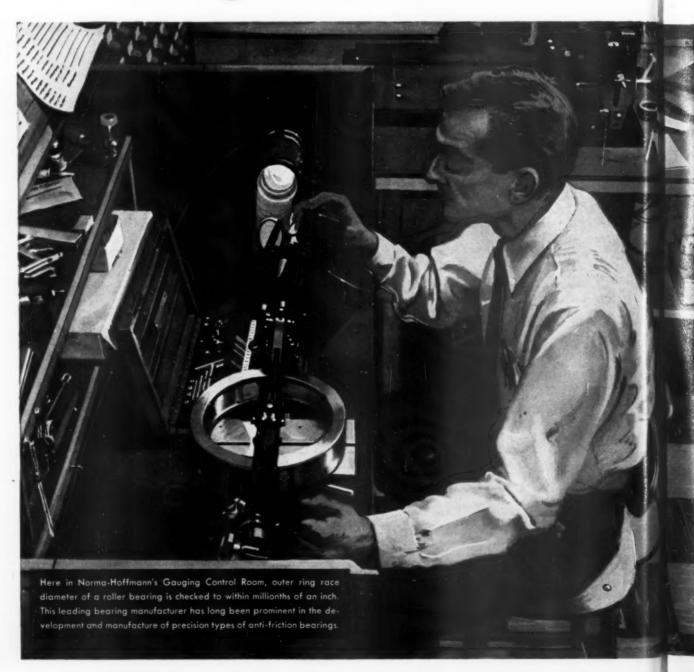
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WORLD'S MOST COMPLETE LINE

Correct Lubrication in Action...

# Bearing manufacturer



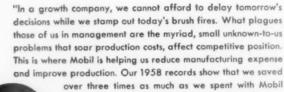


Complete Engineering Program
Proved Petroleum Products

Mobil

# rolls up \$23,530 saving!





over three times as much as we spent with Molast year . . . a most profitable relationship!"

R. O. Robeton

Vice-President—Manufacturing
Norma-Hoffmann Bearings Corporation, Stamford, Conn.

Mr. Robertson's words underscore the importance of Correct Lubrication to any profit-minded manufacturer. At Norma-Hoffmann Bearings Corporation Mobil lubrication engineers work closely with an extremely cost-conscious maintenance department. Downtime, parts replacements and maintenance costs have been cut—\$23,530 saved in 1958 alone. Some of these savings are detailed below.

For example: Sticking valves on one grinder were a constant problem. Cause of the trouble was a mystery. Mobil's representative sent a sample of lubri-

cant from the machine's reservoir to the Mobil laboratory. Analysis report led to cause of trouble—a lead sheathed cable submerged in the oil reservoir was contaminating oil. This detective work on the part of Mobil restored continuous production, saved \$5,850 in maintenance costs.

This kind of practical engineering help is just a part of a Mobil program of Correct Lubrication. For complete details on how Mobil can improve your profits call your nearest Mobil representative. You'll find—You're Miles Ahead with Mobil!



Erratic, stick-slip operation of three grinders caused poor size holding. Mobil engineers found trouble was caused by deposits on valves and use of incorrect competitive oil. A correct way and hydraulic oil was installed. Greater production, fewer wheel dressings, less scrap and reduction in valve-cleaning costs saved \$8,640.



To keep 16 of Norma's Multiple Spindle Bar machines functioning properly required a weekly 40-minute production interruption on each one to supply lubricant for tool slides. Mobil engineer studied procedure...suggested a simple lubrication system modification. Application time was reduced 75%...\$7,040 saved on production and application.

# **Correct Lubrication**

Another reason You're Miles Ahead with Mobil!

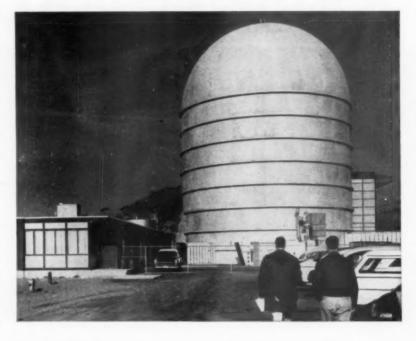
# Diesel electric power insures water flow in new atomic test reactor

This new atomic reactor at General Electric's Vallecitos Atomic Laboratory, Pleasanton, California, is unique—unique because it combines the high specific power of a pressurized vessel-type reactor with the large, easily accessible experimental space of a pool-type reactor . . . unique because it operates continuously, 24 hours a day for 24 days, between maintenance checks.

#### NO POWER FAILURE PERMITTED

To keep reactor parts cool, and prevent damage, 11,000 gallons of water a minute must be kept circulating through the unit. Even a few seconds' interruption in this cooling would be harmful. For that reason, electric power to drive cooling water pumps must never be interrupted while the reactor is operating. Yet, a sudden electrical storm . . . an unusually high wind . . . transformer failure or a variety of accidents can interrupt the supply of commercial power, temporarily.

General Electric solved this problem with an auxiliary source of power—a Caterpillar diesel Electric Set. This Cat D353 Diesel Engine and generator (shown in small photo) constantly handles about 50 KW of the electrical needs of the reactor. If commercial power fails for any reason, it instantaneously picks up another portion of the total load and keeps the cooling system for experiment, ventilation system,



instrument panel, emergency experimental power, elevator and fan operating.

#### INSURANCE FOR OTHERS, TOO

Cat units furnish dependable prime power or quick-acting standby power in installations such as the following:

Federal Reserve Bank, Richmond, Virginia Carnation Company, Mt. Vernon, Missouri Kearney Trecker, Milwaukee, Wisconsin Western Union Telegraph, New York Baptist Memorial Hospital, Oklahoma City, Oklahoma KSBW-TV (Channel 8), Salinas, California

#### IN AN EMERGENCY

At hospitals ... at defense estab-

lishments... in manufacturing plants, Caterpillar diesel Electric Sets provide vital power-loss insurance. They come in a range of sizes from 30 to 375 KW. Only diesel design can give you 4 to 8 second automatic starting that accepts full load without stalling.

#### INSURE NOW

Your local Caterpillar Dealer can help you choose the right Electric Set for your needs...can help you install it. Call him or write to Dept. CS-4 for Guide Book on Emergency Power: Engine Division, Caterpillar Tractor Co., Peoria, Illinois, U. S. A. Caterpillar and Cal are Registered Trademarks of Caterpillar Tractor Co.

You always have dependable electric power when you have...



engine power

## In Finance

#### First National City Bank Boosts Rates On Personal Loans; Others to Follow

Reflecting the general trend toward higher interest rates, New York's First National City Bank this week raised its charge on personal loans—and other banks in the city, as well as banks in other cities, promised to up theirs in turn. FNCB, which is the largest consumer lender in the city, increased its basic discount rate on consumer loans from 3.75% to 4.24%.

The increase is the first in almost four years, and bankers say it reflects increased demand for bank credit, particularly consumer debt. Banks in New York are permitted by law to charge an effective rate of 12%, but they have not charged the legal maximum since 1936.

#### MCA, About to Offer Common Shares, Gives Public a Peek at Its Profits

MCA, Inc., TV film distributor, producer, and top talent agency, is planning its first public offering of 400,000 common shares. For the occasion, it has opened its books to Wall Street for the first time.

Among other things, MCA owns a movie studio, which is partly rented to Universal Pictures Co., Inc., at a minimum of \$1-million yearly for the next 10 years.

In a preliminary prospectus filed this week, MCA revealed that it has been growing fast in recent years. In 1958, revenues were \$48.4-million, compared with 539.5-million in 1957 and \$15.2-million in 1954. Earnings last year reached \$4.3-million, equal to \$1.18 a common share, up from the preceding year's \$4.1-million, or \$1.12 a share.

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#### Fed's Hike in Discount Rate Foreshadows Even Higher Interest Rates This Fall

The Federal Reserve's move last week to hike the discount rate to 4% from 3½%, even in the midst of the steel strike, was widely anticipated (BW-Sep.5'59,p94). But the reasons that impelled Fed to move so quickly point to even higher interest rates and less credit availability this fall for most borrowers. While the Fed's move was ascribed to "following market yields up" and "dispelling doubts about changes in tight money policies," high-ranking Fed officials are making these major points in background conversations:

Bank loan demand is the heaviest in many years.
 The extent of the credit demand, which doesn't yet reflect the fall upsurge, loads the economy with inflationary potential which the Fed wants to curb.

· Unemployment, while higher than the Fed thinks

desirable, is at levels which offer little slack for the economy; bottlenecks are multiplying in skilled labor areas, while surplus labor areas diminishing.

while surplus labor areas and diminishing.

• Cost-of-living indexes continue to move up, partly because of an increase in manufactured goods prices.

• The prospect of a balanced budget for the fiscal year ending June 30, 1960 has changed to a probable deficit of some \$2-billion.

 At home and abroad, there is still apprehension over further deterioration in the dollar's value.

 Production figures, already impressive, will rise even higher following the settlement of the steel strike.

The Fed plans to keep a tight rein on credit, but it's prepared to "give a little" to supply funds for fall seasonal needs. However, the Fed's weather eye is on the inflationary potential in the steel settlement and the rate at which the business boom surges upward again this fall. Either one could prompt the Fed to clamp down even tighter on the credit supply.

#### Finance Briefs

A law to curb savings and loan holding companies (BW-Jun.27'59,p112) appeared a certainty this week as Congress passed the measure and sent it to the White House. Meanwhile, however, Great Western Financial Corp., the largest S&L holding company, purchased the First S&L Assn. of Oakland, Calif., with assets of over \$83-million, bringing its total assets to about \$600-million. Under a "grandfather clause" existing S&L holding companies won't be affected by the new legislation.

Bank automation is making slow but steady progress. General Electric this week unveiled its monster ERMA (Electronic Recording Method of Accounting), a computer it has been testing for more than a year in collaboration with the Bank of America. Burroughs Corp. last week showed a similar system and started taking orders for delivery in 1961. These systems, like others in production, depend on the "common language" system of magnetic ink characters developed by the American Bankers Assn. (BW-Apr.11'59,p85).

Safeway Stores, Inc., has gone back to quarterly dividend payments. About a year ago (BW-Sep.6 '58,p53), Safeway joined the small group of corporations that pay dividends monthly. But last week Pres. Robert A. Magowan backed up, after a new company survey showed that a slim majority of shareholders preferred the conventional quarterly payments.

Tight money is forcing corporations to cast about for off-beat methods of raising capital. Last week, International Telephone & Telegraph raised \$11.6-million for overseas operations through sale of 15-year debentures in Switzerland. The interest rate was only 4%, substantially under the cost of a similar issue in New York . . . and General Dynamics Corp. arranged a \$60-million  $5\frac{1}{2}\%$ , 20-year private placement with the Prudential Insurance Co. The General Dynamics deal, while not unusual, highlights the growing importance of private placements, as unsettled conditions in the bond market make it more difficult to float new issues.

#### MARKETING



THROWAWAY SHELTER was made for the Army by Container Corp. out of plasticized fiber. Museum called it artistic.

BUT IS IT ART? Museumgoers discuss merits of charcoal briquette box (top) and fruit shipping tray molded from pulp.



## The Artist Looks at the Package



MILDRED CONSTANTINE, who assembled exhibit, stands by what she thinks is world's largest toothpaste-tube type of package, "Sealdtank" by U. S. Rubber Co.

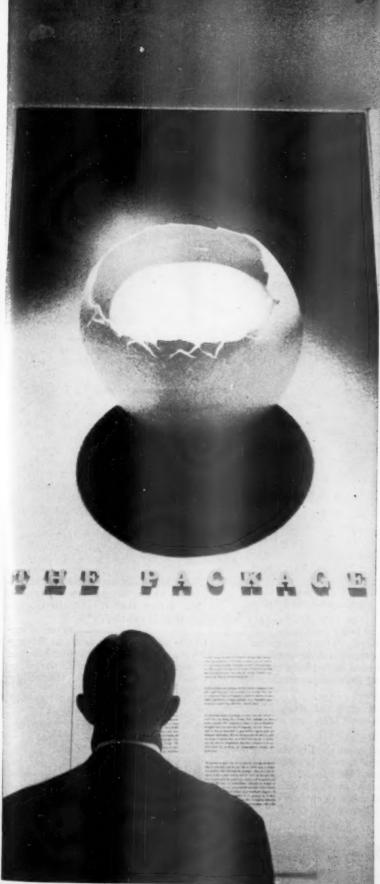
What does the egghead see when he looks at the egg? According to New York's highbrow Museum of Modern Art, he sees the perfect package. But producing the perfect package, an easy matter for the hen, is a job that costs American industry billions a year.

The museum selected the egg as its criterion of excellence in choosing examples of esthetically pleasing commercial packaging. The museum believes its current exhibit of esthetic packaging marks the first time that Art has considered the Package, although various authorities in art have kept an eye on industrial design for a long time.

• Art Standard—What standards does the artistic eye apply in picking the perfect package? Perhaps surprisingly, the museum's standards correspond pretty closely with the ideals set by good industrial designers.

The museum of Modern Art might be classed in the school of art that stresses the harmony of an object with its intended function. This thesis led the museum to ask, "What are the basic functions of a package?

Take the egg as an example, suggests the Museum. It protects, preserves, and





New dern But easy costs

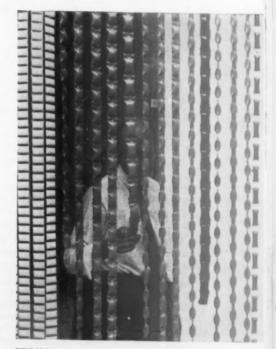
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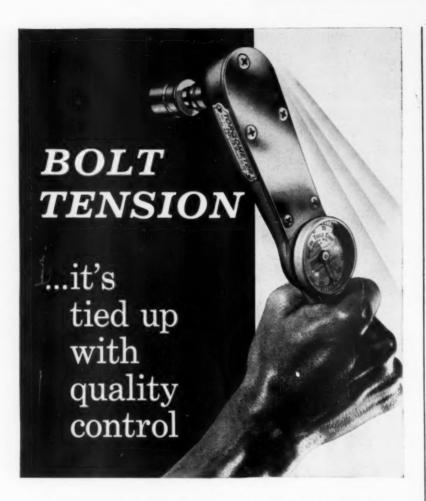


GOOD PACKAGES come in many forms. Foreground: polyethylene can by Pirelli. In rear: a stack of steel "Palletainers."



STRING of plastic pillow-shaped dispensers of such products as shampoos make a decorative screen for this patron of art.

THE EGG is the perfect package, according to the Museum of Modern Art.



Correct tension, that is, of bolts, studs, screws, and other fasteners used in product assembly. Without tension control there is no quality control.

For example, uneven tightening of head bolts causes warping and engine trouble. Improper tension of fasteners in aircraft components sets up dangerous stresses and strains. Measuring devices, electronic components, frames, fittings, high-pressure containers — these and many other products require uniform tension on screws and bolts for proper operation.

That is why SNAP-ON® Torqometers® are being used more and more on assembly and maintenance work. These precision wrenches tighten bolts and studs to exact predetermined tensions. Or they may be used to spot check the tension on bolts tightened with power impact tools. Easy-to-read dials show torque measurement in either inch-pounds or foot-pounds.

SNAP-ON offers Torqueeters in a wide range of sizes, plus torque drivers for proper tensioning of screws. These are widely used in electronic and electrical assembly.

If exact tension on fasteners is part of your quality control, or if you suspect that lack of such control may be a source of trouble, call in a SNAP-ON Sales Engineer. He can offer qualified advice on torque-measuring problems, and provide a complete range of hand tools and wrenches for assembly or maintenance. Write us or call your nearest SNAP-ON Branch.



8100-I 28th Avenue . Kenosha, Wisconsin





GIRL MEETS boy package—a vinyl film protective suit by Snyder Mfg. Co., Inc., for chemical laboratory workers.

displays the "product." It facilitates the product's use. And it is a beautiful object in its own right.

• Range of Exhibits—The museum finds these basic qualities recurring throughout good packaging, whether the object is a tiny squeeze-pack of perfume or a whale-size rubber container for liquids, which the museum displays as the world's largest example of the toothpaste-type tube.

Indeed, the museum's definition of "package" is pretty broad. Exhibits include a temporary shelter made of-collapsible water-repellent plasticized fiber board and a spaceman-type inflatable protective suit for laboratory technicians, which the museum displays on the theory that it's a well-designed package for a man.

But even these unusual examples embody the museum's standards for perfect packages. They are multipurpose. And, always, the form is related to the function in an eye-appealing manner.

· Corporate Backing-How did the museum go about assembling its exhibition of arty packaging? Three years ago its associate curator, Mildred Constantine, approached several packaging materials producers with a proposal to sponsor such a show. She persuaded three-Reynolds Metals Co., National Distillers & Chemical Corp., and Container Corp. of America-to agree to underwrite the exhibit. National Distillers bought the idea on the premise that the exhibit would stimulate designers and package engineers to dream up new uses for the polyethylene produced by its chemical plants. Says the



#### How much does "do-it-yourself" really cost us?

The question's cropping up a lot these days. And with good reason. For one thing, management's learning that the decision to do

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a construction or maintenance job with in-plant labor is all too often based on only the roughest of cost estimates. Recent research findings, for example, reveal that nearly half of the companies where "do-it-yourself" work is done have little or no cost data whatever on work of this type.

Many estimates, too, ignore such important cost factors as the expense of hiring, training-then firing!-the extra manpower needed for periodic "do-it-yourself" projects. Or the cost of supervision. Or internal overhead, insurance and other fringe benefits.

When you cost-account "do-it-yourself" closely, it's revealing how expensive it really is. Small wonder, then, that more and more companies are finding it's better, in many ways-to contract-out construction and maintenance work!

NEW MANAGEMENT STUDY. The results of a comprehensive survey of contracting-out policies among 74 industrial plants have been detailed in a monograph, "Contracting-out-a Study of Management Decision-Making." The study was authored by Professors Margaret K. Chandler and Leonard R. Sayles, of the University of Illinois and Columbia's Graduate School of Business, respectively. For a free copy, write NECA, Dept. B-9, 610, Ring Building, Washington 6, D. C.

#### How contracting-out benefits industry

- Stabilizes employment by eliminating "hire-and-fire" cycles.
- Pinpoints job costs. "Do-it-yourself" estimates often inaccurate due to use of unrealistic charges for internal overhead, etc.
  - No outlays for special equipment or supplies.
  - Assures firm job completion schedules; performance and equipment guarantees.
    - · Frees plant manpower for production needs.

National Electrical Contractors Association NECA 810 Ring Building, Washington 6, D. C.

## Rockwell Report



by W. F. ROCKWELL, JR.

President

Rockwell Manufacturing Company

Earlier this year one of these reports dealt with "in-plant" metering of liquids and gases as a more efficient means of cost control and quality control. A Certified Public Accountant

was kind enough to contribute some additional thoughts. In part he wrote:

"In this Rockwell Report you said, 'There is a growing interest in in-plant metering now for very sound reasons. Increasing competition and rising costs have made cost control and quality control more necessary than ever before.' As an auditor I can also envision additional benefits from quantity control and audit control. In more than one instance the principles of in-plant metering—or individual machine metering—would have lightened my work as auditor and would have yielded more dependable audit results. Probably most of the larger industries have given much thought to this question of separate metering for individual machines or production units, but what about the smaller industries, municipally owned plants, etc. . . ."

The petroleum and gas industries have had considerable experience with the "accounting" aspects of metering, but it is a relatively new concept for much of general industry. Naturally we are pleased at this growing trend toward in-plant metering since so many of our meters (gas, water, liquid) are involved, as are chart drives, valves, gas regulators, and other flow control equipment.

Incidentally, the auditor who contributed his ideas on in-plant metering ended his letter on this pleasant note: "I am happy to be one of your stock-holders."

Visitors from twenty-four states and sixteen foreign countries signed inquiry cards at our Tulsa Oil Show exhibit, requesting additional information on products shown there. By far the most popular new product, in terms of such requests, was our new Turbo-Meter which enables oil companies to save considerable time and money in the accurate measurement of large volumes of petroleum products. In just about six seconds, for instance, it will measure all the gasoline your car will use in a year.

Production-line applications of Walker-Turner Light-Heavyweight Machine Tools have been broadened considerably by the addition of a number of new tools and accessories. These include the recently introduced 17-inch Drill Press, 2½-inch Belt Grinder, and 20-inch Band Saw and Butt Welder. A revised 48-page catalog describes these new tools in detail, as well as the balance of the complete Walker-Turner metalworking line.

The original purpose of the Aetna Drivotrainer (manufactured by our AVM Division) was for use in high school driver training programs, but additional uses are constantly being developed. One of the potentially largest is in industry. A gas company, for instance, uses a Drivotrainer installation in refresher courses for its eleven hundred car and truck operators. The benefits of safer driving to the company are obvious, and the men themselves—many veteran drivers—are also enthusiastic about the Drivotrainer. One summed it up: "It may save my life sometime."

One of a series of informal reports on the operations and growth of the

ROCKWELL MANUFACTURING COMPANY

for its customers, suppliers, employees, stockholders and other friends



company: "Polyethylene may be in tight supply now, but we want to keep it tight in the future."

• Comparison Shopping—Having obtained the necessary financial backing from the three companies, Miss Constantine started on one of the most offbeat shopping trips in the history of art collecting. She began showing up at manufacturers' doors and at packaging conventions; she even combed her local supermarkets for artistic packages.

Miss Constantine recounts that the impact of the world of art on the world of business was quite stunning at times. She recalls that one plastic drum manufacturer was unsure just how to take her statement that his product displayed "a crude vigor." But she thinks her visits opened the eyes of several companies to the beauty of their packages: "I would select one unit of an article they had been accustomed to thinking of as so many gross, or carloads, or production runs. I would extol its beauty. Then they would look at the product as if they had never seen it before."

Despite the shock of recognition displayed at some of these first meetings. Miss Constantine rates many companies highly on their artistic sense. "The engineers and technicians, particularly, have an instinctive feel for instilling beauty in their products. It's just not articulated."

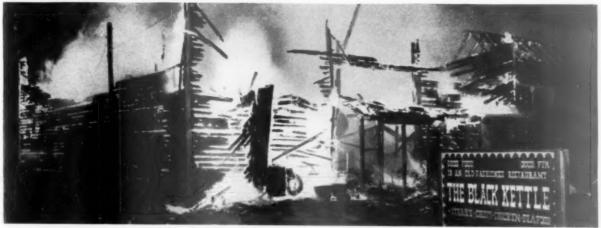
• Rubs of the Game—The museum ruled out a great many types of packaging design that it considers to represent only "superficial embellishment." A plaque at the entrance to the exhibit spells out its ground rules:

"The exhibition is not concerned with what is called motivational research, merchandising, production costs, or the merits of the product inside the package. The purpose is to appraise packages of all sorts for their design qualities, and in so doing to re-examine and perhaps broaden our ideas of what actually does constitute a package."

Miss Constantine gave short shrift to the many companies who tried to convince her of the esthetic merits of their packages with comments like "It sold like mad" or "Motivational research told us to make it like this." She explains: "The ordinary concept is to decorate merely the surface—to slap on a label which has no structural relationship to the form or functions of the package itself."

But Miss Constantine won't quarrel with containers that incorporate sales stimulants—"Certainly an important function," she concedes—with the other aspects of the package. Selecting an elegant package of perfume, she murmurs: "Here is the kind of labeling of which I approve. It suggests the aura and the purpose of the liquid inside."

# Two restaurants caught fire ... one was Grinnell Sprinklered!



This frame building housing The Black Kettle Restaurant didn't stand a chance when fire started during the night. The structure was well involved by flames before anyone was even aware of the blaze. Loss: one building; one business; \$30,000!



When a carelessly discarded cigarette started a fire in The Meadows, Framingham, Mass., Grinnell Sprinklers stood the building in good stead. One sprinkler head detected and doused the blaze quickly, before serious damage could occur.

Grinnell Sprinklers are always a sound investment. They are ready ... any time ... to stop fire whenever and wherever it starts.

Grinnell Sprinklers are easily installed. In existing buildings, a Grinnell System can be added with a minimum of inconvenience or disruption to normal routine. The complete system . . . pipe, hangers, valves, sprinkler heads . . . is normally prefabricated in Grinnell shops, then shipped to location. Expert crews provide careful installation.

Ask a Grinnell representative to give you a free estimate. Be sure to check the insurance savings which are possible, too — savings which frequently pay the entire cost in a few years. Grinnell Company, Providence 1, Rhode Island.

#### GRINNELL





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# WHO BUT REULAND WOULD OFFER



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#### MOTOR SERVICE



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15-Year-Old Service Policy Takes the Word of Any Local Electric Motor Service Shop of Your Choice.

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Whether your company is an O.E.M., or a User, the Reuland Honor System Service Policy can be your passport to uninterrupted machine operation. If you are tired of delays while service responsibility is determined... if you would like to talk to a motor company that can look you straight in the eye and be measured, your experience with Reuland could be a revelation.

A free copy is available on request. Explains the simple steps to take. Shows how Reuland's unique philosophy of doing business permits it to offer the industry's only Honor System Service Policy!

All company officials should have a copy. We'll mail yours promptly.

MODERN POWER FOR MODERN DAY PRODUCTS
...all in lightweight aluminum frames!

REULAND MOTORS



REULAND ELECTRIC COMPANY WESTERN DIVISION: Alhambra, Calif. EASTERN DIVISION: Howell, Mich. Distributors in all Principal Cities

For important Reuland Engineering data refer to Sweet's 1959 Product Design File, section 5a

#### Sell-It-Yourself

That's the new policy of M & B Headwear. The company has eliminated its jobbers, sells retailers by mail.

Manufacturers in every field increasingly are worrying over that bone of contention: What's the best way to get their goods to the end users? Now a cap maker has come up with an answer that is practically unheard of in his own field and that could have broad applications: Do your own selling.

M & B Headwear Co., Richmond, Va., which believes it's the largest cap manufacturer in the country, is not going the route of the door-to-door salesman. It will continue to sell through stores. But last fall, Morris J. Milstein, president, took the drastic step of dropping the 40-plus jobbers who had handled his line, and set up a do-it-himself selling program, by mail.

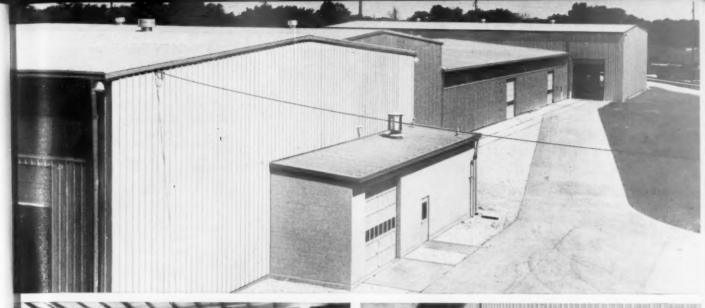
• Early Results—Last week he reported on results so far: 1,000 stores, large and small, have bought his program and his product. He won't know for another month how well his caps are selling at retail, but reorders are already beginning to come in. And Milstein has answered to his own satisfaction the question: Must you have salesmen to sell?

The manufacturer, the retailer, and the consumer all come out ahead under his new program, Milstein says. By eliminating the jobber, M & B squeezed out a lot of the air between manufacturer's and retailers' prices.

• New Pricing—Under the former setup, M & B might sell a cap to wholesalers for, say, \$1.45. The jobber sold it at about \$2.12. The store sold this cap at from \$3.49 to \$3.95—for a markon of from 40% to 45%. By selling the store direct, M & B can get a price of about \$1.65. A 45% markon would put the retail price at about \$2.98. Some of the manufacturer's higher price goes into more profits for him; some goes back into a better-quality product.

The product itself is an important key in the direct approach. An old hand at the cap business, Milstein had long mulled over a way to sell more quality at lower prices and bigger profit. He figured that consumers do much of their buying on a self-selection basis, with little coaching from the store salesman. Why shouldn't retail store buyers be smart enough to know a good thing when they see it, without a salesman's pudging?

 Special Product—He tried out mail selling on an item or so. This convinced him that a mail program would go over





Spacious, clear-span interiors

Beautiful new Butlerib panels

# This new factory makes Butler factory buildings an even better buy

Here's one of the newest, most modern metal fabricating plants in the country. It's Butler's new factory in Galesburg, Illinois, built to produce new Butlerib™ metal cover panels for the Butler system of building. A unique combination of deep and shallow corrugations makes Butlerib panels the strongest, most rigid and most weathertight cover ever offered on Butler industrial and commercial buildings. It's a cover that's as beautiful as it is practical.

And, thanks to the streamlined efficiency of this new factory with its high-speed roll-forming equipment, Butler offers this new, superior cover as standard material on Butler buildings—at no increase in price.

This new Butler factory is also a good example of the design latitude the Butler system of building permits. Butler engineers developed the work flow pattern first. Then, with standard Butler components, they designed the building to enclose the flow pattern.

Butler Low-Profile (LRF) rigid frames form the structural system. These frames span areas up to 120 feet, yet have a low, modern 1-in-12 roof pitch. Butlerib walls and roof form a cover that gives maximum protection, yet requires only a minimum of maintenance.

If you're planning industrial construction, get the full story on the Butler system of building today. It's the pre-engineered system of building that saves you time and money, but doesn't limit plant design. And, with new Butlerib panels, it's an even better way to build . . . still the lowestcost way to build well.

For full details, contact your Butler Builder, Ask him about Butler financing, too. He's listed in the Yellow Pages under "Buildings" or "Steel Buildings." Or write direct.



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#### BUTLER MANUFACTURING COMPANY 7313 East 13th Street, Kansas City 26, Missouri

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Undoubtedly you are always looking for ways to cut your maintenance painting costs.

It is important, then, for you to realize that in maintenance painting the cost of application runs 4 to 10 times the cost of the paint. Knowing this, it would be natural for you to search for the most durable surface coatings available.

May we suggest that the world's largest and most experienced paint producer is the logical source of these products.

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CONVENIENTLY LOCATED IN 1084 U. S. CITIES
TO OFFER YOU SUPERIOR SERVICE.

only if the product had something special that sold itself. Last year, Milstein felt he had something special—a stretch section in back of the cap. With this stretch section, he says, three sizes will fit all the country's 35-million boys and even men with heads up to  $7\frac{1}{2}$ . The retailer has to carry less than half his normal inventory to give his customers as big a variety as before.

He had such faith in the potency of this feature that last fall he stopped production of his regular lines to tool up for the Size-O-Matic caps. To keep his 300 employees working, he did turn out 1.5-million hats for the government.

Last January, he got a patent on his new cap. He was ready to go.

• The Cost—Naturally, it took some money. He allocated a budget of \$50,000 to cover the mailing, advertising, promotion. Since he had to stockpile against hoped-for mail orders, he hired extra warehouse space, temporarily. He got himself an advertising agency and a public relations firm. He worked out an elaborate mail campaign, complete with promotion kit—and free sample hats to some 3,500 stores.

The outlays and the loss of his regular spring business will cut into his profits this year, he admits. But he figures that mail selling costs him about what selling through distributors cost him—3% of his sales dollar. Since his dollar sales per cap are now higher, this means a higher dollar selling cost—but his profit is higher, as well. If he had gone the route of employing his own salesmen, he would have had to tag on another 10% to the cost of selling, says Milstein.

The plan has this asset. For the first time, it is the company who is selling its caps. It has better control of its distribution. And, as Milstein twirls his Size-O-Matic on his finger, another plus becomes apparent. "I have always loved my work," he says, "but I never felt I could put enough of myself into it before. I can be proud of this product."

• Easy Reordering—His work didn't stop with the initial selling. Jobbers often do an inventorying job for retailers, so Milstein set out to solve that one, too. He concocted a stock control plan to make reordering easy. Each cap has a detachable plastic visor—green, red, or blue, according to its size. As the store sells a cap, the salesclerk puts the visor into one of three envelopes, also colored to indicate size. Periodically, the store counts the visors in each envelope, reorders on sheets that M & B provides.

Companies in other lines have such reorders devices, but this one is so simple, says Milstein, that one retailer fussed at him: "This system is good, but we don't do a very big volume in caps. Why don't you sell pants?" END



Mr. Spivak speaking to Mr. Mikoyan

#### Mr. Mikoyan meets the press

in New York
...beats a
deadline
in London

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On Sunday, January 18, Anastas I. Mikoyan, Soviet diplomat, was a guest on National Broadcasting Company's popular "Meet the Press" TV program in New York 6:00-7:00 P.M. A film version was made for British Broadcasting Co. which planned to show it over the British network two days later.

Right after the New York telecast, with the cooperation of NBC International, the film was rushed to Idlewild by Emery and shipped out on BOAC's new Comet jet at 9:00 P.M. that evening. Emery met the shipment at London Airport and, just nine hours after

the film left New York, delivered it to BBC in London for televising on Monday, a day ahead of scheduled showing.

Only Emery gives you pickup 24 hours a day...first flight out departures ... and seeing your shipment through all the way. Emery's coordinated air and ground handling operations make the most out of jet air speed ... at competitive prices too. This is why NBC also makes hundreds of domestic shipments every month via Emery.

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#### **Buying Japanese**

Despite jump in U.S. imports, consumers retain wary attitude toward many Japanese products.

U.S. consumers, for the most part, are still wary of a made-in-Japan label, though apparently less so than they used to be. Today, three buyers out of five believe that: "If you know how to judge quality of a product, you can often find Japanese imports which are much less expensive and just as good as Americanmade products."

These are two highlights of a motivational research study of U.S. attitudes toward Japanese imports published this week by the U.S.-Japan Trade Council, a private nonprofit group of U.S. and Japanese businessmen formed to pro-

mote trade relations.

The study, by market researcher Daniel Yanelovich, covered 300 consumers interviewed in depth in four cities—Atlanta, Denver, Omaha, and Philadelphia. It outlines a program to help Japan and its importers here to

improve trade.

• Jump—For Japan, the importance of U. S. trade has grown sharply. Over-all, Japanese exports to the U. S. rose from \$276-million in 1954 to \$674-million in 1958. Traditional items—fish, cotton goods, wood products, silk and silk products—are still the biggest imports. But mechanical and so-called prestige products have come up fast. From 1954 to 1958 photographic goods rose from \$1.2-million to \$8.6-million; electrical goods including radios, shavers, and the like from \$2.2-million to \$28.2-million; scientific and professional instruments from \$4.6-million to \$11.8-million.
• Lage—Yet Japan lags in consumers'

• Lag—Yet Japan lags in consumers' minds. Over a third of those interviewed opposed more trade with Japan; most of these thought it would harm the U.S. economy. In fact, Japan was No. 2 target, behind only Russia, among those against increasing foreign trade.

In general, Americans still think of Japan as a maker of "toy" goods, though its cameras are gaining friends. Sewing machines, radios, and other precision instruments, despite their growing importance, scored badly in an association test. Of the survey sample, 78% thought Japanese quality below that of the U.S. On the other hand, half found the Japanese had "good taste and an appreciation of beauty"; two-thirds liked the originality and attractiveness of home decorating products.

The study recommended that importers push Japanese "prestige products" with reputable stores as outlets, and emphasize brand names more. END



Responsible personnel, key personnel, skilled personnel are NOT at a premium. They are at your fingertips, 175,000 men and women representing every facet of sales, administrative and technical fields . . . from office boy to president. You do not waste time screening and searching. We've done it all. This service, as all our services, are country wide, and available at no expense to you.

\*80% are presently employed

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#### "Life-Line" to Ore Mine . . .

Because of its location in a very remote and nearly inaccessible area of northern Quebec, a big iron ore mining development awaits completion of a new 200 mile railroad. When operations are in full swing, iron ore from Quebec Cartier's new mine will be transported by rail to Port Cartier, east of Shelter Bay on the St. Lawrence River. From there it will go by ship to steel mills in the United States, Canada and Europe.

Construction of this railroad through rugged country is a big tough job—one that requires dependable, large capacity equipment to keep the rush project on schedule. Pitts-Foley Co., contractors, are using 25 Euclid Rear-Dumps

959

of 22-ton capacity. Powered by 300 h.p. diesel engines, these big "Eucs" haul heavy rock excavation from cuts to fill areas. In spite of steep grades, rough roads and an operating schedule of 20 hours 6 days a week, these heavy duty haulers are maintaining an availability record of 90% or better.

With over 25 years of experience in building specialized earthmoving equipment, Euclid and its world wide dealer service organization offers you bonus benefits that bring a greater return on investment. See your Euclid dealer for technical assistance with any off-highway hauling program.



#### **EUCLID**

DIVISION OF GENERAL MOTORS Cleveland 17, Ohio Euclid (Great Britain) Limited, Lanarkshire, Scotland

. a complete line of equipment for heavy earthmoving, mining, logging and many industrial operations . . .

#### In Marketing

#### Western Air Lines Takes Hilton, Diners' Club as Credit Partners

Marking a major break in the credit barrier on air travel, Western Air Lines announced last week it will honor some 2-million Diners' Club and Hilton Carte Blanche credit cards in payment for all flights throughout the WAL system.

The company now honors more than 900,000 Universal Air Travel Plan cards in addition to its own Charge-A-Flight system. In effect, Western's bid, which will be promoted by all three credit partners, should more than triple the airline's "fly now, pay later" potential. It's felt that a large number of both diners' and Carte Blanche card holders are high-frequency travelers, and Western looks for a substantial broadening of the travel market as a result.

Under the contracts, Western will transfer all credit accounts to Diners' and Carte Blanche. The airline will receive full face value of purchased tickets. It will pay both organizations a service fee; the credit card companies will assume the credit risk. Authorized travel agents will earn a full commission on credit card sales.

Western's "breakthrough" came only a few weeks after the Civil Aeronautics Board refused to approve a ban on "outside" credit cards—a ban proposed by the International Air Transport Assn. CAB said discrimination against non-airline credit card systems may constitute restraint of trade.

#### NTA Storevision Will Pursue Housewives Into Supermarket, Laundry Center

National Telefilm Associates, station owner and program syndicator, has a plan to pep up daytime TV by a simple expedient: putting on programs where the housewives are. Starting Oct. 19, it will televise 54 hours each week of live programing to some 400 "major supermarkets" in the New York metropolitan area. Shows will go out over NTA's own WNTA-TV (Channel 13).

The company has organized a new division, NTA Storevision, Inc., to handle this operation and to equip away-from-home locations with TV receivers. Besides the supermarkets, the company has a deal with a chain of laundry centers, plans other high-traffic locations and windows. Storevision has licensed stations in nine other cities for the presentation of its programs.

Storevision's effort differs from that of Store-Video, which is testing a series of advertising messages in two Grand Union stores (BW-Jun.6'59,p137). Commercials will be limited to 10 seconds, for a total of 12 minutes an hour. Programs, gauged for the mobile audience they hope to catch, will include time and weather reports, news bulletins, "while they happen" sports events, and the like

The program had a three-day test at a Daitch-Shop-

well supermarket in Bayonne, N. J. Conclusions, according to NTA: increased store traffic, relief of tension at checkout counters, "huge increases in sales of the various advertised products." Women with small fry along especially appreciated the program., NTA says,

#### Union Carbide Puts Consumer Goods Into Their Own Operating Division

Union Carbide Corp. is combining its consumer product lines in a new operating division, the Union Carbide Consumer Products Co., headed by Arthur C. Bryan as president. He formerly was vice-president and general manager of consumer products for the National Carbon Co., another UCC division.

National Carbon in the past has marketed Union Carbide's consumer goods including Prestone antifreeze and Eveready batteries, automotive specialty parts, and garden chemicals. Under the new setup, the Union Carbide Chemicals Co. will continue to manufacture Prestone for the consumer division. Eveready plants will be transferred to the new consumer products company. National Carbon will continue to make and sell its industrial line of goods.

Morse G. Dial, UCC chairman, described the move as one designed to expand the consumer products business. At present, about 12% or \$156-million of the company's \$1.3-billion in annual sales comes from consumer goods.

#### Halle Bros. Plugs Quality Furniture Of Nearby Wholesale Showroom

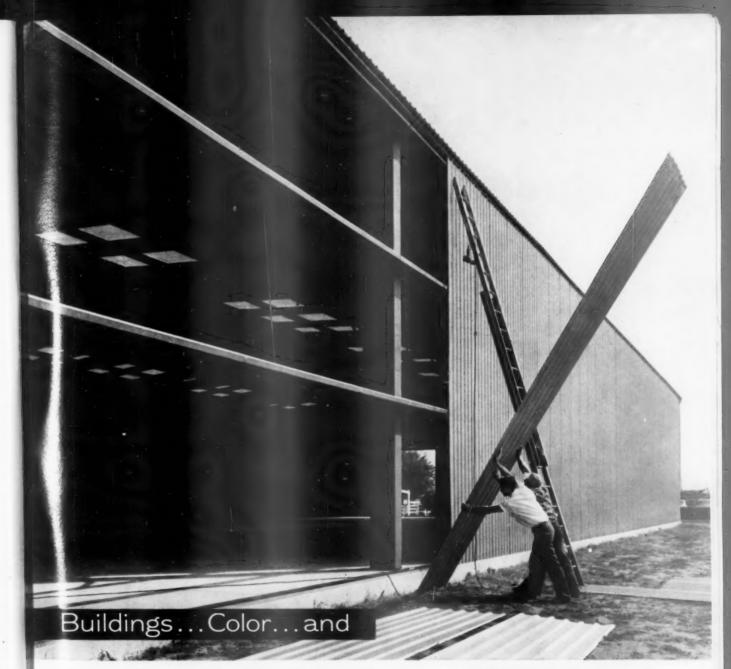
Many department stores have just about thrown in the towel on selling custom-quality, decorator-type home furnishings (BW-Jan.24'59,p71). High cost of carrying the inventory and high price that makes for slow selling are the main reasons.

Halle Bros. Co., a major Cleveland department store, has a plan to put the fizz back into department store sales of top home furnishings. Next week it starts newspaper advertisements promoting the wares of a top wholesale showroom as an adjunct to its own store lines. The distributor: Tom Sinks Furniture Co., just up the block.

Department stores have used showrooms before, though somewhat grudgingly, since they prefer to sell the lines they carry. A few have opened wholesale showrooms of their own. Since these sell to customers of other retailers, too, Halle feels this merely removes the competitive battleground to another area. And if the store owns the showroom, it still has the inventory burden—which its competitors wouldn't have.

Both Sinks and Halle feel the deal will prove a real boon. To Sinks it should mean "a whale of a jump in business that could smooth the way for similar agreements between Sinks and other Cleveland stores." To Halle, it means access to high-priced merchandise that it doesn't have to buy before it has made a sale.

Sinks will help train Halle's 60 home furnishings salesmen in selling integrated quality lines.



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supermarkets, warehouses, bowling alleys and the like. Its lowpitch roof lowers heating and cooling costs. Its safety engineered framework stands up to extremes of stress and strain. Its columnfree interior gives optimum space for the dollar. A Stran-Steel building is your best buy for economy, beauty and service.

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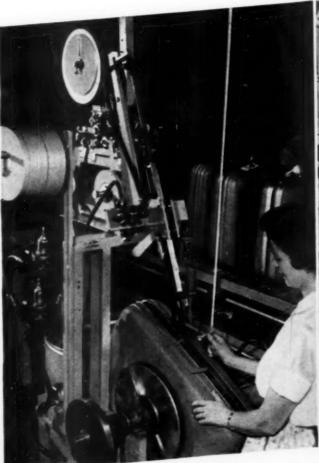
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#### COLORS that roll on dry end floor marking woes!

At Anheuser-Busch, Inc., they make sure their Budweiser cases are kept on the move by clear indications of temporary storage areas with marking of "SCOTCH" Brand Lane Marking Tape No. 471. This colored plastic tape resists wear; won't fade or dry out; requires no drying time. Markings can be changed day-to-day if necessary. "SCOTCH" Brand Lane Marking Applicator M-77 makes it a quick, clean, one-man job!





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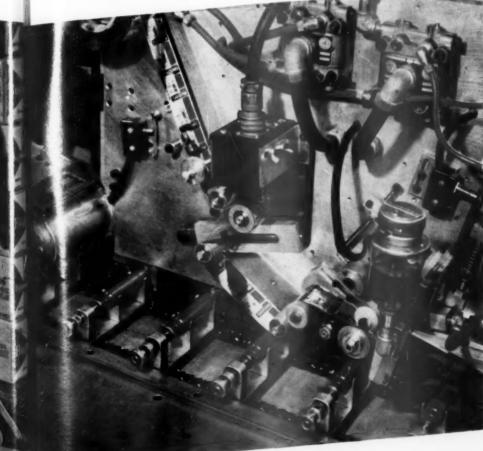
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A labelled filter cartridge in less than 1½ seconds . . . up to 3,000 an hour! At Carter Carburetor Division of ACF Industries, Inc., that's the eye-blinking production clip for applying labels of printed "SCOTCH" Brand Polyester Film Tape No. 850 to their new in-the-label that holds its message indefinitely; resists weathering, road film, engine heat.



TAPEnology is a new way of looking at the more than 300 pressure-sensitive tapes trademarked "SCOTCH" Brand. It includes the "magic" qualities that make these tapes highly versatile "tools" for you: tapes that stick to any surface; tapes strong as steel; clear as glass; colorful as Christmas. Tapes that disappear—others that stand up to acids, alkalies, solvents. And it covers more than 100 "3M-MATIC" Taping and Dispensing methods to keep pace with any production line. Want to become a "TAPEnologist" yourself? It's easy. Ask your nearest "SCOTCH" Brand Distributor, or write us: 3M Co., 900 Bush Ave., St. Paul 6, Minn., Dept. IAB-99.

When tape costs so little, why take less than "SCOTCH" Brand?

SCOTCH SCOTCH

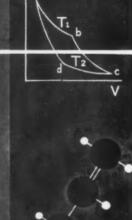
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#### INTERNATIONAL OUTLOOK

BUSINESS WEEK SEPT. 19, 1959



Washington at midweek was taking a somewhat hopeful view of the outcome of Soviet Premier Khrushchev's history-making visit here (page 30).

His arrival in Washington, of course, was a personal triumph-despite the quiet reception from crowds packing his parade route.

More important, Khrushchev appears eager to make his trip a success at the top level, in private discussions with Pres. Eisenhower and other U.S. officials. That was evident from his initial two-hour talk with Eisenhower and his comments at the National Press Club.

Khrushchev hasn't altered Moscow's long-range goals on Berlin and on East and West Germany. Nor has he changed his aim of trying to increase Soviet trade with the U.S. But he appears seriously interested in trying to reach some agreements to adjust these East-West problems.

Before his visit is out, Khrushchev may well make some dramatic proposals. He indicated at midweek that he would present a new disarmament package in his speech before the U.N. General Assembly.

Pres. de Gaulle is pressing for a liberal settlement of France's fiveyear-old war in Algeria. His program, dramatically announced this week, calls for truly free elections in Algeria after token signs of a cease fire. It offers Algerians the right of "self-determination"-what would amount to autonomy within the French Community.

De Gaulle is under the gun to try to win acceptance for his program. Here's why: Last year the U. N. General Assembly almost passed a resolution upholding Algeria's right to independence. (U.S., playing neutral, abstained from the voting.) The Algerian problem is on the present General Assembly's agenda-again. If the Algerian resolution should win a majority vote, France would suffer a real diplomatic defeat.

Thus, in the nick of time, de Gaulle is offering a solution that could lead to full independence—at a far later date. Eisenhower's successful talks with de Gaulle two weeks ago indicate the U.S. probably will support the new program.

De Gaulle's program essentially isn't different from what France was about to offer Algeria 16 months ago—just before the collapse of the Fourth Republic. But de Gaulle has more power to put it across.

He has won the army's backing. He has kept a lid on the French settlers in Algeria who favor "integration" with France. He has encouraged the moderate elements in the rebel FLN (National Liberation Front).

Fighting is sure to continue for some time. But it's doubtful that the rebels will reject de Gaulle's proposals out of hand—as they have done with earlier schemes.

Washington is in no mood to spend more money overseas than it has to.

There's no simple way to explain this shift in attitude. One factor is the Administration's own economy drive-coupled with domestic politics. Another is general weariness with the financial costs of the cold war. On top of that, the heavy deficit in the U.S. balance of payments—partly caused by the slowdown in exports—is worrying both officials and congressmen.

There are sharp differences between the Administration and Congress on how to reduce the spending. For instance, the Administration is trying to

#### INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK SEPT. 19, 1959 transfer to West European countries some of the burden of aiding underdeveloped countries. But Congress, before adjournment, took a swipe at the Administration's whole foreign-aid program.

Congress lopped nearly \$800-million from Eisenhower's original \$4-billion request for foreign aid.

Hardest hit is military aid. Congress appropriated only \$1.3-billion. That's \$300-million below Eisenhower's request, \$700-million below the minimum recommended by the Draper Committee (BW—Apr.4'59,p117). Net result: NATO countries will have to postpone modernizing their armed forces.

Economic aid—it's true—will stay at about the same level as last year. And that includes long-term soft loans from the Development Loan Fund. (Soft loans are made on easy terms, are partly repayable in local currencies.) But the State Dept. and Senate Foreign Relations Committee had plugged for a higher level of spending on economic aid.

The Administration, on its part, is pushing the proposed International Development Assn. (IDA). An offshoot of the World Bank, IDA will use primarily U.S. and West European money to make soft loans to have-not nations.

IDA won't begin operating until next year. The scheme, backed by Treasury Secy. Anderson, must first get a full hearing at this month's meeting of the World Bank and International Monetary Fund. Then, Congress will have to act on the proposal during its next session—and other member governments, too, will have to ratify it.

At the start, IDA won't be much more than a pilot project. Its capitalization—planned to be \$1-billion spread over five years—will be fairly small. (The U.S. will contribute \$320-million of the \$750-million in hard currencies.) Average yearly lending would run to only \$150-million.

Details of IDA's policies are still hazy—and open to debate.

Several West European countries, particularly the British, aren't sold on the idea of soft loans. These loans would tend to compete with the hard loans that the World Bank now grants.

Another sore spot will be the question of "convertibility"—how much of each country's contribution can be used to buy goods from other countries. U. S. will go as far as 50% convertibility, if IDA presses the point. But we would prefer a 20% top limit—so that 80% of our contribution would have to be spent in the U. S.

Coffee-producing countries in Latin America seem to be winning their battle to get African producers to cooperate in setting export quotas. Latin countries are saying: If you West Europeans agree to quotas on your African production, then we will support your policies in coping with African political troubles.

Latin producers already have set a formula for the coming crop year: Each country will base coffee shipments on 90% of the best export year during the past decade. This week, French-controlled producers in Africa endorsed the formula. Belgians backed it in principle. Britain still is holding back.



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#### In Washington

#### McNeil Quits As Pentagon Comptroller To Become President of Grace Line

Wilfred J. McNeil resigned this week as Asst. Secy. of Defense (Comptroller) to become president of the Grace Line, a subsidiary of W. R. Grace & Co. He will also be a director of the parent company. His resignation is effective Nov. 1.

McNeil, who is 58, has earned a national reputation as an influential voice in defense policymaking through both Democratic and Republican administrations. He has served as the Pentagon's top money man since September, 1947, and has frequently figured in speculation over an appointment as Defense Secretary.



During World War II, McNeil served as an admiral in Navy fiscal affairs. He was previously in newspaper circulation work, automobile sales, and banking. For many years, private industry has been dangling job offers before him at several times his present salary of some \$22,000. His intimates say the recent death of his aviator son, who leaves five young children, was a major factor in McNeil's decision to enter private business.

#### OCDM Ready to Ask Congress Again For Power to Sell From Stockpile

The Administration still wants to unload some \$3-billion of excess strategic metals and minerals in its stockpile but will delay asking Congress for the authority to do it for at least a year.

J. Roy Price, assistant director of the Office of Civil & Defense Mobilization, confirmed the existence of this stalemate in the battle to pare down Washington's \$8-billion stocks of strategic materials.

Price revealed that OCDM is making another official study of minimum defense requirements "after a nuclear attack." This one, being conducted at the agency's "National Damage Center" at a secret spot outside Washington, follows last year's survey of defense needs by a special stockpiling committee headed by Chicago banker Holman D. Pettibone.

At the same time, Price said, the Administration is going ahead with plans to ask Congress for legislation that would set up a new national materials reserve inventory from which OCDM could authorize sales without getting specified authorization from Congress.

Mining-state congressmen will fight the OCDM plan, on grounds that it doesn't adequately protect domestic

#### MORE NEWS ABOUT GOVERNMENT ON:

- P. 165—Democratic Presidential hopefuls go home after frustrating session of Congress.
- P. 168—The Alabama fight for a uniform law regulating small loans.

metal and mineral markets against the softening of prices. However, most minerals experts in Washington concede that some eventual disposal is a near-certainty.

Meanwhile, the General Services Administration disclosed this week that it will ask Congress to O.K. the sale of 470,000 tons of natural rubber from the national stockpile. This includes not only deteriorated rubber, which the government is authorized to sell, but also stocks of fresh rubber in excess of defense needs.

Sales will be stretched over a nine-year period to avoid upsetting domestic rubber prices. Approval by Congress is likely to go through without significant opposition.

#### Highway Funds to Be Doled Out To States on New Quarterly Quotas

For the first time in the history of the federal-aid highway construction program, the states will be given spending quotas—most likely on a quarterly basis. The Burcau of Public Roads will announce the scheme on Oct. 1 when it allocates \$1.8-billion in fiscal 1961 federal-aid apportionments to states for the interstate system.

The measure is timed to coincide with the start of the new le-a-gallon tax increase that Congress recently levied on motor fuels to keep the program going.

Up to now, states have been allowed to spend their federal money any time within a two-year period—1961 money, for example, can be spent as late as the end of fiscal 1963.

The current shortage of funds in the Highway Trust Fund, from which roadbuilding costs are paid, is forcing the bureau to put states temporarily on a uniform spending schedule that will match the inflow of money into the trust fund—approximately \$180-million a month.

Although states will end up with the same amount of federal money, they must exercise tighter planning on construction programs.

#### Congress Makes First Move to Switch Control of Peaceful Atom to States

The first move to turn some control of atomic energy over to the states was carried out by Congress without dissent in the last hectic day of the session.

The new law permits the federal government to withdraw gradually from regulation of certain types of radioactive materials and devices. It applies principally to commercial and industrial use of isotopes. AEC will still have sole authority over reactors but its work load in licensing and regulating the nation's 4,700 isotopes will be greatly reduced.

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Sen. John F. Kennedy of Massachusetts.



Sen. Stuart Symington of Missouri.

THEIR WHITE HOUSE HOPES ARE DIMMED

#### Frustrated Democrats Go Home

Party's top Presidential candidates puzzle over how to regain lost ground at next session of the 86th Congress.

At dawn this Tuesday, after an allnight grind, the first session of the 86th Congress came finally to a weary end. Adjournment found the majority Democrats in trouble—frustrated, angry, and peering uncertainly toward a 1960 that no longer seemed so dazzling bright. This is a situation of special importance to the four Democratic senators pictured above—Lyndon B. Johnson of Texas, John F. Kennedy of Massachusetts, Stuart Symington of Missouri, and Hubert Humphrey of Minnesota. All want their party's Presidential nomination next year, and one may get it.

The gnawing worry for all Democrats, and especially this foursome, is that the nomination may turn out to be less valuable than anyone imagined when the 86th Congress convened.

· Labor's Posture-Certainly, none of

the senators has gained political stature out of the session. If there was any personal gain it belongs to Kennedy—and only in the sense that he improved his position with organized labor. A good many democrats doubt that he really did—and even if he did it remains to be seen whether this will be a handicap with the public at large. Big labor's chiefs do praise Kennedy highly for some slight softening of the Griffin-Landrum labor reform bill.

Johnson, as the Senate Majority Leader, alienated both the right and





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left wings of his badly split party; his Presidential chances, never bright, appear to have been substantially dam-

aged.

The silent liberal, Symington, and the vociferous liberal, Humphrey, seem neither to have gained nor lost ground as a direct result of what Congress did or did not do.

On balance, most observers agree, all four suffered to some extent merely by being involved in a Democratic Congress that came up on the losing side in a whole series of political fights with a Republican President.

#### I. A Study in Contrasts

In the art of politics, it is seldom possible to portray results in blacks or whites. Grays tend to predominate. But in Washington this week, a dramatic and important contrast was present for all to see. Democratic Party political fortunes were low.

Huge Democratic majorities, in both House and Senate, the biggest since early New Deal days, trooped gaily into Washington last January for the session's opening. The party nurtured great expectations, not the least of these being that they would write a New Deal-Fair Deal Democratic record, thus paying the way for recapture of the

White House in 1960.

· Conservative-Now in mid-September, Democrats packed for home bearing political bruises. They were going defensively, to explain what happened. Far from producing a strong Democratic program, the first session of the 86th wrote an "Eisenhower Republican" record that is basically conservative.

Few are writing off the Democrats completely in next year's Presidential race; it is too early for that. But there are more and more converts to the belief that 1959 has seen develop a situation that could well lead to four more years of divided government-a Republican Administration, a Demo-

cratic Congress.

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The 1960 outcome is, of course, quite iffy and-like all recent elections-apt to be dominated by issues beyond manipulation for narrow partisan pur-

pose: peace and prosperity.

• Khrushchev Talks-If the personal meetings Pres. Eisenhower has initiated with Soviet Premier Khrushchev bring some easing of international tensions, the Republican Presidential candidate in 1960 will benefit, whether he be Vice-Pres. Richard M. Nixon or New York's Gov. Nelson A. Rockefeller.

The same can be said for GOP prospects if current economic prosperity holds through the election campaign.

On the other hand, if by some accident the Eisenhower-Khrushchev meetings should result in worsening of world problems or if the economy should show signs of a new recession by next summer, most observers feel certain the Democrats and their Presidential nominees would benefit measurably.

The peace issue is the heavier of the two. Some leading Democrats concede privately that any degree of success by Eisenhower in his efforts at relaxing international fears and tensions would put the GOP Presidential nominee far ahead -and especially when, as he is expected to do, Eisenhower goes to the country in the campaign to ask for his election to carry on in the maintenance

Eisenhower, displaying his new zest for political infighting, dominated the impressive Democratic Congressional majorities in the session just concluded. In sum, a strong executive dictated the course of major legislative policy.

#### II. Shape of the Future

The political struggle, sometimes subtle and sometimes heavy-handed, will continue and grow noisier between now and next Jan. 6, when the second session of the 86th is scheduled to convene, and next July, when both Democrats and Republicans hold their Presi-

dential nominating conventions.

In the interval, Democrats will seek to regain political equilibrium, and Eisenhower will try to keep them off

· Special Session-As the first session ended, there was talk that sometime during the fall Eisenhower would call Congress back to Washington for a special session. The object: action on the central plank in his program to fight inflation through fiscal policy and management of the national debt. Eisenhower wants to remove the statutory 41% interest ceiling on long-term marketable government securities. Democrats refused to adopt it in the first ses-

Treasury Secv. Robert B. Anderson, the strongest figure in Eisenhower's Cabinet, will be the President's key adviser when the time comes-probably early next month-to decide about a

special session.

Some influential Republicans think Eisenhower's best chance to whip the Democrats into line on the interest rate issue is a special session. The problem is complicated, unglamorous in terms of popular public appeal and comprehension. They reason that, no matter what priority the Administration assigns it next year, the interest rate proposal will tend to get lost in the welter of general legislative activity.

· Rallying Support-In a special session, so the reasoning goes, Eisenhower could isolate the issue, drive home to the public its importance and, thereby, rally the general support that has been

lacking up to now.

Definitely on the Eisenhower schedule for the coming off-session months is a special radio-TV appeal for new farm legislation. The date is uncertain, but the intent is not. Eisenhower wants public heat turned on the Democrats to write, next year, new basic farm legislation that will replace laws which continue to pile up unwanted, federally subsidized crop surpluses.

#### III. Congress in 1960

The 1960 session of the 86th Congress offers the Democrats another chance to retrieve some of their lost political glow. On domestic issues, the majority can be expected to meet Eisenhower more aggressively.

Sen. Kennedy, reflecting widespread unrest at the past session's failure to create a strong image, says a responsible Congress will pass compromise legislation rather than holding out mere promises. But, Kennedy goes on, "We have to make it clear it is not where we stand-it is where we have been forced to stand [by Presidential opposition].

In other words, Democrats need some issues and will try to legislate them with less regard for the ever-present veto threat. In this context, a Democratic agenda for the 1960 session can

be predicted in broad outline. · Unfinished Business-It will be

heavily weighted with proposals that were held back in 1959 for fear of veto. Among the probables: an increase in the minimum wage to \$1.25 an hour and extension of its coverage; a federal school construction program; government aid for areas suffering from chronic unemployment.

Also on the list of "unfinished business" must go civil rights, which will dramatize again a deep North-South division in the Democratic Party, and farm reform, where party lines mean less. There is little optimism, however, that Congress next year can or will enact legislation to deal with the na-

tion's agricultural crisis.

If there is a sleeper on the Democratic agenda, it can be put down as 'something for the old folks." A Senate Labor subcommittee, headed by Michigan's Pat McNamara, will come in by late January with recommendations for improving incomes, health care, and housing of the 16-million Americans past age 65. There is still fumbling on how to approach it, but the issue will be a lively one.

Sen. Humphrey, on the eve of adjournment, introduced a bill that would give special tax credits to employers who hire older workers. Its fate is not certain, but for serious consideration in 1960 is another Democratic bill proposing a rise in social security taxes to finance free medical insurance for the aged. END

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#### Small Loan Fight in Alabama

Despite opposition from local loan offices, it's almost certain the state will pass a uniform small loan law. If so, the big national concerns are ready to move in.

The nation's giant consumer finance companies have their eyes glued this week on Alabama, where a legal battle is brewing to close up "small loan" offices, and open up the state to consumer lending within a regulated framework

Wielding the legal cudgels is State Atty. Gen. MacDonald Gallion, who has instituted a lawsuit against 321 so-called "small loan" companies. Gallion is asking court permission to padlock their doors, accusing them, among other things, of lending money at "highly usurious rates" of up to 2,000% per vear, of maintaining a "slush fund" to influence state legislators, and, in general, of being a "public nuisance."

• Legislative Struggle—Actually, Gallion isn't seeking to choke off consumer cash credit in the state. The lawsuit, in fact, is a gambit in a legislative struggle over effective regulation of consumer finance

companies in the state.

Two bills—on a version of the model Uniform Small Loan Act recommended by the National Consumer Finance Assn.—are in the legislature's hopper, and each is being backed by powerful supporters. Favorable legislation—which seems assured of passage—would open the state to the big finance companies, which thus far have, in effect, been frozen out of the state. It could also speed the way for more effective small loan legislation in other states.

Alabama is one of 10 states in the nation—mostly in the South—that lack strict controls over small cash loans to consumers. In the absence of effective controls, few national lending concerns are willing to do business in the state. That's because an ancient state law, authorizing a maximum lending rate of only 8% simple interest makes it impossible to make a profit—legally. The big companies feel a gross return of 20% or higher is needed to come up with sufficient profits.

• Ineffective Control—In practice, Alabama's 8% limit has been ineffective, savs Gallion, because of a quirk in the law that prevents state authorities from prosecuting violators directly. This has nurtured a prosperous loan shark com-

munity, says Gallion.

Backing him is Alabama's reform Gov. John Patterson, who first won national prestige with his clean-up of vice-ridden Phenix City.

His is not the only state where such

moves are afoot. In Texas, the last important industrial state lacking consumer finance laws, a constitutional amendment to clear the way for controls is on the ballot for 1960. And in Mississippi a quiet campaign for strict controls is under way. Both these moves could be helped by a Patterson-Gallion victory in Alabama.

 National Pattern—Today, uniform small loan laws are in force in 35 states, according to the National Consumer Finance Assn., trade group for most of the industry. Five other states have laws dissimilar to the uniform act that nevertheless, provide regulation that is effective enough according to NCFA's yardsticks. These include maximum ceilings on interest rates and size of loan, licensing requirements, and stiff

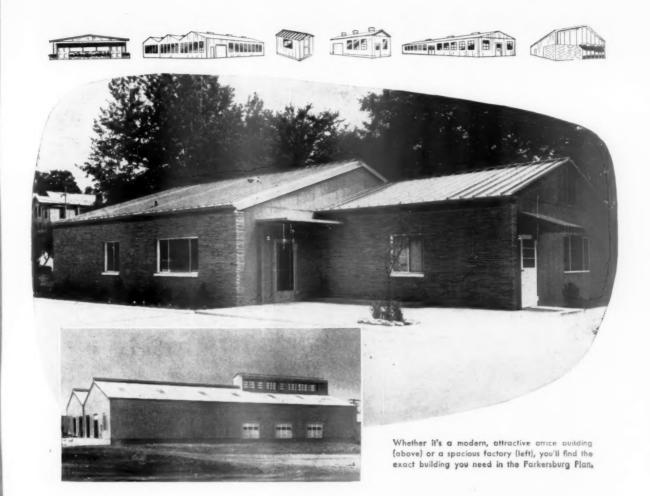
penalties for violations.

• Local Opposition—The bill that seems most likely of passage in Alabama is the Gilchrist bill, patterned after the uniform small loan laws, but it is opposed by the Alabama Finance Institute—named along with its 321 member companies in Gallion's lawsuit. The institute says that the Gilchrist bill will discriminate against small, locally owned companies in favor of the giants of the industry. AFI still is trying to push through its own bill—the Taylor bill—which critics say would legalize what the high-rate lenders have been doing up to now.

• Intramural Dispute—Paradoxically, what seems to be endangering the chances of effective legislation more than anything else is an intramural squabble between Household Finance Corp. and Beneficial Finance Co., No. 1 and No. 2 in the industry. Household and Beneficial take different stands on what form the proposed bill should

Household, though it has had a "public relations" man living in Montgomery, the state capital, for two years, is taking a strictly hands-off attitude in regard to the legislation. It feels that, as an outsider, it has no business meddling in the work of the legislature, but it has voiced informal support of the Gilchrist bill.

Beneficial, on the other hand, thinks the Gilchrist bill provides impractical rates, too low for profitable operations. Instead, it is plumping for another measure that grants higher rates, and doubles the lending limit of the Gilchrist bill—\$1,000 rather than \$500.



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\* \* \*

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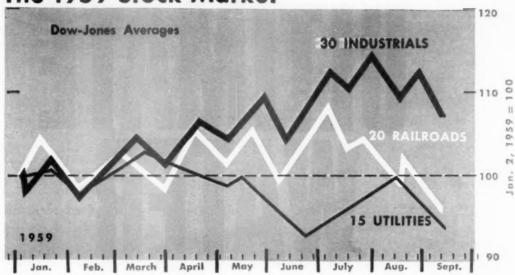
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#### The 1959 Stock Market



#### Reeling, But Not Down for Count

Bull market is shaken by heavy blows, and Wall Street, seeing more to come, grows cautious if not nervous. Yet business strength points to continued basic uptrend, and most analysts bet on new highs by yearend.

Wall Street's big bull market was a badly shaken animal this week. For the sixth consecutive week, prices declined; and, for the first time this year, you could sense investor bewilderment and frustration.

From the chart above, you can see just how deep a shake-out the market has undergone. Industrial stocks have dropped roughly 7% from their all-time highs of early August, as measured by the popular averages (which understate the pounding individual stocks have taken). Rail shares have tumbled 10% from their mid-July peaks. Utilities, after a flare of strength this summer, have slumped anew. It is an impressive toll.

Moreover, the feeling among Wall Street men is that prices are still in for some whacks. As they see it, prices could go down about another 3% or so—to around 610 on the Dowlones industrial average—in the next few weeks.

• Shift—Most professionals see this decline merely as a "correction" to the speculative excesses of spring and as a re-evaluation—a more sober one, they judge—of price-earnings ratios. Still, they don't deny that the current decline marks a fundamental shift in the course of the great bull market that began in 1958.

From early in 1958 until this summer, stock prices rose almost in a straight line, marred only by a series of 4% drops earlier this year. Investor passion for equities was almost unparalleled; only the spirit of 1929 equaled it. Equities became a cult.

Now this fervor seems spent. Investors—though still more interested in capital appreciation than income—are more reluctant to bid up prices in an effort to hedge against an inflation that may be blocked by near-balanced budgets, monetary policy, and ample capacity in many industries. The bull market is growing older; it's moving slower, is more vulnerable to broader declines. It doesn't instill supreme confidence. From here on, as most analysts see it, 10% declines should be expected—and, sooner or later, of course, a massive decline to end the cycle.

• Not Over Yet—There is no escaping, though, the prevailing sentiment in Wall Street that the bull market has not yet run its course. Most analysts insist that the basic trend for the next six months, at least, is up—chiefly because of the vigor of business activity. In fact, most are betting that stocks will hit new highs before the year is out.

But they see in the current action of stock prices the evidence of a new spirit of caution, the sign that forces

are at work damping down any real exuberance for equities at this time.

For one thing, they point out, the bull market was weaned on the business recovery, and had its most dramatic successes during the beginning stages of that recovery. But now business activity has reached a high level and, even allowing for an upsurge in inventory accumulation after the steel strike's settlement, it cannot be relied on for further dynamic gains. The rise in earnings and dividends then will top out, so the reasoning goes, and stock prices are now reflecting this anticipated peak.

• Restraining Forces—Two other factors are working against a continued straight-line rise in stock prices. One is the possibility of a thaw in the cold war, which could reduce defense spending and upset business spending plans. By mid-1960, so some analysts say, the reciprocal visits of Eisenhower and Khrushchev should be bearing fruit, and a real "peace scare"—as Wall Street brokers callously call it—could break.

The second is tight money. Already, the rise in short-term yields has attracted substantial institutional funds, and these big buyers have significantly reduced the flow of cash they were pouring into equities a few months back. As yet, there hasn't been a significant switch into bonds, but this could occur if the credit reins are drawn any tighter.

• Two-Way Squeeze—Big investors see in tight credit a two-way squeeze on stock prices:

Higher yields in the bond market

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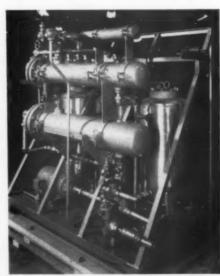
Ultimate water makes the chemist's distilled water seem almost salty. Compared to it, ordinary drinking water seems almost solid with dissolved minerals, salts, suspensions, and similar impurities.

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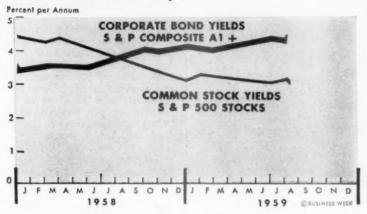
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COMPANY	RECENT	1958-1959	PERCENT
	PRICE	HIGH	DECLINE
Air Reduction	78.50	\$ 91.50	-14.2
	111.50	132.00	-15.5
	52.00	74.75	-30.4
	56.00	74.37	-24.7
	33.12	58.12	-43.0
Carrier	36.25	48.50	-25.3
	98.25	121.00	-18.8
	54.75	63.00	-13.1
	56.50	68.25	-17.2
	89.12	97.37	- 8.5
Foster Wheeler Freeport Sulphur G't Northern Paper Hercules Powder Joy Mfg	39.25	49.50	-20.7
	28.50	37.37	-23.7
	52.75	60.25	-12.5
	61.37	72.87	-15.8
	49.37	59.75	-17.4
Kennecott	96.37	117.75	-18.2
	40.50	51.50	-21.4
	26.50	39.75	-33.3
	36.37	46.87	-22.4
	105.50	130.00	-18.9
Nat'l Cash Register National Lead	58.75	86.25	-31.9
	116.00	132.75	-12.6
	47.62	58.37	-18.4
	33.75	45.37	-25.6
	58.50	71.00	-17.6
Sinclair Oil	56.50	67.87	-16.8
	56.00	71.00	-21.1
	55.50	70.00	-20.7
	25.50	37.00	-31.1
	101.50	120.00	-15.4

make common stocks—with their relatively low yields now—look that much less appealing in comparison (table).

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 As credit curbs slow down business expansion, corporate earnings could work lower.

Bull markets often have thrived on tight money. But theoretically, at least, there always is some point where money gets so tight as to be a restraining influence on stock prices. Generally, stock prices have advanced in the early stages of credit restraint—since credit checks normally coincide with a boom in business—and then have declined as credit was tightening further. Most analysts take the position that by mid-1960, if business continues at its heady pace, the reins will be pulled hard enough to begin choking stock prices.

• Concern for 1960—It's clear that all these factors have set off the current market decline. While most analysts think they will do no permanent damage to the stock market in the immediate months, they believe they will influence prices significantly in 1960. Thus, there's growing concern that mid-1960 may see the beginning of a major market decline.

#### I. Warning Signals

Signs that the market is tiring are all about.

Technically, there are a handful of danger signals. Borrowings by brokers to carry securities have been declining steadily; last month, they totaled \$2.8-billion, the lowest in five months. Short interest—a prop under the market when it's high—also has been coming down in big steps. The number of issues declining—or hitting new lows—far exceeds the number of issues advancing—or those hitting new highs.

The volume of trading has dropped off, too; it totaled 10.5-million shares in the last week of August, the smallest turnover in more than a year. But actually, this is not a bad sign. Increased trading during the decline would have been a symptom of real trouble.

Up to now, these technical influences have affected individual stocks and stock groups more than the market as a whole. Even before the sharp spill of Aug. 10, a limited list of stocks and stock groups had gone through the wringer. Oils, rubbers, aircraft makers, and sulphur companies, to name just a few, had suffered sharp drops. Now, with the market so battered, these technical forces may hurt more broadly.

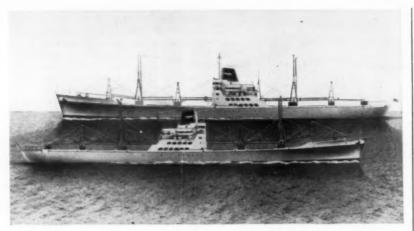
 Waiting It Out—Most important of the new danger signs is the new sidelines position of the big institutions. Earlier this year, stock prices bounced back quickly and vigorously after any setback chiefly because the institutions bought heavily on any price concession.

But in the past three weeks, a new pattern has emerged. The institutions are hugging the sidelines, waiting for the market to settle at lower levels—and, just as important, the small investor who looks to the institutions for guidance has also pulled out his profits as he has waited for the institutions to make their next move.

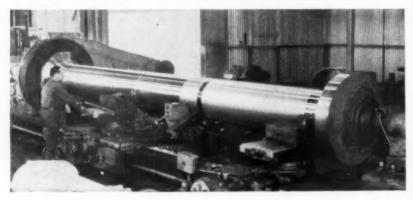
#### II. Figuring the Future

Confronted by these visible signs, the big stock brokerage houses now have turned cautious about equities. They still couch their advice in fancy rhetoric, but the rhetoric doesn't hide a tone of nervousness.

Carl M. Loeb, Rhoades & Co., for one, feels the market is in for a period of "unsettlement," for it thinks that



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while the steel strike could end in a small wage increase, it doubts this will be inflationary. And the firm suggests that perhaps inflation does not present as menacing an aspect in the future as past experience has led the public to fear. J. R. Williston & Beane now advises a policy of 50% in cash or bonds or a combination of the two, and says investors should weed out weak commitments and take profits on stocks.

Arthur Wiesenberger & Co. puts its finger on a turn in investor psychology as the reason for its dim view of equities. Wiesenberger cites as the chief reason for the rise in stock prices in the past bull market a burst of enthusiasm that made investors willing to buy common stocks at higher price-earnings ratios than before. But Wiesenberger thinks there is now a transition from this mood of overvaluation to a more sober one, and suggests that investors reduce equities and buy bonds.

• Sharper Swings—If the market behaves the way the experts think it will, the deep corrective swings may be even harder on the nerves than anything so far in this market.

The advances of the bull market have grown more and more selective, and the big buyers have concentrated on a relatively small number of issues. This thinness has brought sharp rises in prices of favored stocks. But by the same token, it will mean sharp declines as the buyers switch stocks later on.

Besides, bargain hunters will be in and out of the market, and this in itself may cause wide fluctuations in prices of individual stocks.

• Selective Rises—Spencer Grean, a New York investment counselor, warns that the next rise in stock prices will be limited to a small number of shares. He feels that big investors now are doubly careful about which stocks to buy. Grean feels, however, that the fact blue chips are again leading the market is favorable, and he expects them to lead the averages to new highs this year.

Gerald M. Loeb, of E. F. Hutton & Co., thinks the market rally already is under way. He feels that the market has had its setback, and now will advance strongly. Loeb warns, though, that the number of shares available at bargain prices will be small, and he says that investors will find it hard to select investment-grade stocks.

The consensus is that steels and motors should stand out in the next market upswing. Steel shares should profit from settlement of the steel strike. Autos are regarded favorably because of anticipated high sales of the new compact cars, but analysts say it's possible increased rates on consumer loans may dampen high demand. Rail stocks and "special situations" also are being pushed by a number of analysts. END





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LOOK FOR

THE SIGN OF
BONUS MILEAGE...



#### Costlier Money

Even Uncle Sam's borrowings call for yields of 5% or better. Other borrowers suffer accordingly.

Prices in government securities markets deterioriated this week at an accelerating rate. This new pressure on the money and bond markets came from the Federal Reserve's boost of the discount rate from 3½% to 4% from reports that the Fed will tighten money still more if the steel settlement proves inflationary or if business booms too exuberantly, and from increasing talk of an approaching "money crisis" (BW

-Aug.29,59,p82)

· Governments-Prices of government bonds fell below 80 for the first time since the War of 1812, except for a minor exception in 1921. This sent yields soaring through the 5% levelsubstantially above the 41% interest ceiling on new issues of five years or more. The Treasury's 23% notes due 1963 fell so sharply in price that their yield shot up to 5.10%. Of the Treasurv's 52 issues of bonds, notes, and certificates, 11 now yield 5% or more and 32 vield 41% or more.

Yields on Treasury bills went through 5% for the first time, with one-year maturities priced to yield 5.03%. The 91-day bills moved up to 41% vield,

the 6-month bills to 4.90%.

· Commercial Paper-Rates on commercial paper and bankers' acceptances were jacked up & to & of a percentage point. This puts open-market commercial paper rates at 5% for leading industrial corporations and 54% for lesser-known companies. Bankers' acceptance rates at 41% for 90-day maturities are the highest since Nov. 15,

Pressure on the short-term market has pushed these rates above long-term rates, reversing the traditional vield curve. A week ago, the Chicago, Burlington & Quincy RR equipment trust certificates were priced to yield 5% for a 6-month maturity, 4.90% for a 15-year maturity

· Corporate, Municipal-Wall Street syndicates dealing in big corporate, state, and municipal bond issues were caught with large unsold balances as free market prices fell away from the

prices fixed for new issues.

The syndicate handling the \$125million General Motors Acceptance Corp. 5% debenture issues broke up with an unsold balance of \$15-million. Also broken up were syndicates in the \$65-million Pacific Gas & Electric Co. 5% first mortgage bond issue, with half unsold, and the \$4-million Alabama Gas

Corp. 51% issue. Prices of both had dropped nearly three points.

· Immediate Effects-The price weakness in the market is having immediate effects. Corporate and municipal borrowers are canceling or postponing offerings of bonds. The Federal National Mortgage Assn. made a further cut of 1½ points in prices it will pay in the secondary market for governmentbacked mortgages. It ascribed this move to the increasing cost of the funds it borrows to acquire mortgages from sellers who are trying to raise capital (page 34).

The cost and unavailability of credit are pinching the commercial banks as well as the housing market. The banks are fully loaned-up, with New York City banks' loans at 65% of deposits, nearly a record for recent times, and banks outside New York at a modern record of 56% of deposits. Banks need to sell government securities to raise funds for further loans, but such sales only drive market prices lower.

Bond dealers and bankers are dismayed at the speed with which short-term interest rates are rising. The Treasurv's 91-day bills, for example, went from 2.99% to 3.88% during August alone, and so far this month have jumped to 4.25%. Rates for commercial paper and bankers' acceptances have gone up nine times this year, three times this

· Behind the Rise-The reason for the sharp increase in money rates is basically the Fed's tight rein on bank reserves. For months' the Fed has kept the deficiency in the banking system's free reserves at the \$500-million level.

Credit is thus being tightened as the business boom builds up, consumers expand their installment buying, and the Treasury faces the prospect of raising \$7-billion before yearend. If the Fed holds the deficiency in bank credit supply at present levels, this means an even tighter turn of the credit screws when demand for money increases this

• Foreign Affairs-The U.S. money squeeze is disturbing European and Canadian money markets. The pound sterling has turned sharply cheaper in terms of the dollar as foreign investors have bought dollars with sterling to invest in high-vielding U.S. securities. For the first time in seven years, rates on U.S. Treasury bills are higher than

#### Congress Eases Squeeze on Treasury

New bill gives money managers advance refunding authority, raises interest ceiling on savings bonds.

Congressmen bid a tentative, cautious farewell to Washington this week, still uncertain whether Pres. Eisenhower will hale them back this fall to deal with the government's mount-

ing financial problems.

In the last-minute scramble for adjournment the House and Senate shoved through a compromise bill designed to help ease the Treasury's bind. But the measure fell far short of Eisenhower's demands, failing to grant his key request for authority to raise the present 44% interest ceiling on longterm bonds.

· The Provisions-The legislation allows for higher interest yields on savings bonds (page 183) and grants the Treasury broad new power to "rollover" securities near maturity for higherinterest bearing long-term bonds.

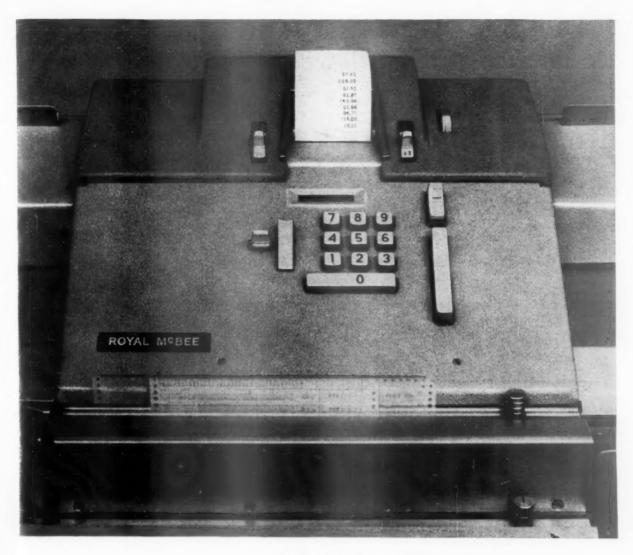
The savings bonds provision lifts the present 3.26% interest ceiling on saving bonds to a new top of 41%.

Of more potential significance, however, is the so-called "advance refunding" provision, which has been sweetened by a tax provision which will allow big investors to postpone for tax purposes any loss or gain when they refund their governments in advance. Taxes would be paid only when the new securities were finally sold. The Treasury regards advance refunding as a valuable tool for debt management, by which it hopes to achieve two aims:

First, it hopes to persuade holders of maturing government securities not to cash them but to turn them over for new long-term bonds bearing higher interest rates. Such new securities could be issued without running into direct competition in the bond market.

Second, by putting more of the debt in long-term bonds, the Treasury feels it could make fewer trips to the market and thus cut down the problems that arise from a huge floating debt.

Advanced refunding eventually may be a big help to the Treasury in dealing with its problems. But nothing on a large scale appears possible at this time. In the first place, the 4½% ceiling bars any large-scale refunding at this point. In fact, it's doubtful any significant refundings will be tried for some months. • New Flexibility-Treasury officials believe, however, that they have won a big victory, that they have new flexibility with the refunding authority. If they had such authority last year when money was easier, they say, it would have been possible to refund ahead of time a large chunk of debt, thus avoiding some of today's refinancing pangs. And they feel it will make their job of debt management easier, if not this vear, then at least in the future. END



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#### In the Markets

#### Third Stock Exchange Is Organized In New York for Small, New Companies

The possibility that New York someday may have a third stock exchange moved closer to reality this week as the New York Mercantile Exchange—promoters of the idea—announced incorporation of The National Stock Exchange, Inc. At present, trading on the NYME is limited to eggs, butter, platinum, and potatoes.

The new National Stock Exchange, according to its organizers, is hoping to list securities of "newer, smaller" companies that, presumably, haven't been able to obtain listing on either the New York or American Stock Exchanges. The new NSE will require companies to have a net worth of \$1-million, 150,000 shares outstanding, and 500 stockholders. These minimum requirements are far below New York Stock Exchange requirements, but slightly exceed those set by the American Stock Exchange.

It's expected to be at least six months, however, before the first share of stock is traded on the NSE. The new exchange still must register with the Securities & Exchange Commission, which NSE officials say won't even be attempted until a "sufficient" number (about 25) of corporations have indicated a desire to have their securities listed.

#### Metropolitan Life Cancels Offering Of S-P Convertible Preferred Stock

A big secondary offering of 30,165 shares of Stude-baker-Packard 5% convertible preferred stock was canceled this week at the last minute because of "unfavorable market conditions"; the stock closed Tuesday at \$360, off \$30 from the previous day.

The block of stock is owned by the Metropolitan Life Insurance Co., and is the last part of the 165,000 shares issued a year ago to 20 banks and three insurance companies, as partial settlement of a \$54.7-million debt owed by S-P, that has not been resold by the original investors. The rest have been sold to private investors at prices ranging from \$208 to \$235.

#### Chase Buys West Indies Bank In Three-Way Stock Deal

In a complex "triple play" bank stock deal this week, the Chase Manhattan Bank, the nation's second largest, purchased the \$12.3-million West Indies Bank & Trust Co. This brings the total number of Chase's overseas offices to 26.

According to Charles A. Agemian, Chase vice-president

and comptroller, the deal had advantages for both banks. Chase saved time and money by not having to call a special stockholders' meeting to O.K. the transaction. And stockholders of the West Indies bank were benefited by a tax-free exchange of shares. As a result, the deal might set a new pattern for acquisitions of little banks by big ones.

Here's how the deal worked out: A three-way agreement was arranged between Chase, M. A. Schapiro & Co., Inc., bank stock dealers, and the West Indies Bank & Trust. It specified that Chase would "cause to be delivered" to West Indies 22,300 shares of Chase stock. But Chase is prohibited from owning its own stock, as are all banks, and bank officials didn't want to go to the expense of a special meeting to authorize the issuance of new shares.

This was where Schapiro came in; he simply went into the open market, bought up the necessary Chase shares, and then delivered them to the West Indies Bank & Trust. Chase, in turn, paid Schapiro at a predetermined price. So far, Schapiro hasn't disclosed his profits in the deal.

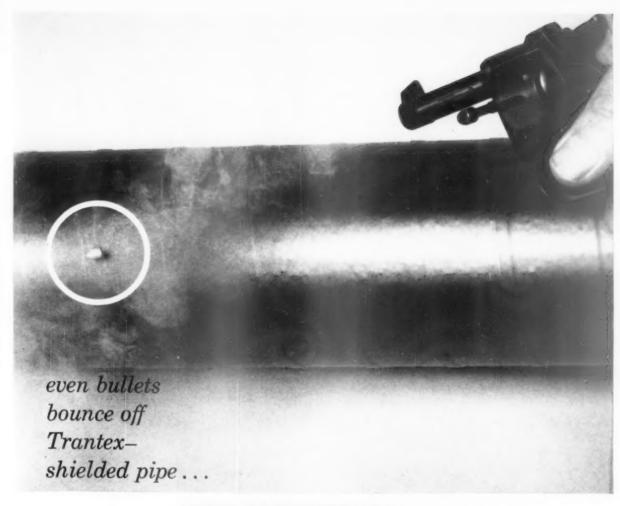
#### Variable Annuities Hit Snag

A new legal wrangle this week dimmed prospects that the Securities & Exchange Commission shortly will be able to work out regulations governing variable annuities—and clear the way for their sale to the public. Two companies selling variables, Variable Annuity Life Insurance Co. and Equity Annuity Life Insurance Co., say they must be exempt from certain provisions of the Investment Company Act of 1940 in order to do business. But this proposal has run into sharp opposition from the National Assn. of Investment Companies and the National Assn. of Securities Dealers, which say that variable companies are investment companies, and should be regulated as such.

#### The Markets Briefs

A leading West German commercial bank—the Deutsche Bank—is negotiating with Montagu & Co., London precious metal dealers for the introduction in West Germany of gold certificates. Gold would be paid on demand to holders of these certificates, which will bear no interest and may involve storage costs. The certificates would be bought by investors who do not want to hold the gold itself.

Two long-established mutual funds are going in for contractual plans. This week it was announced that shares of Boston's \$400-million Fidelity Fund will be retailed by North American Planning Corp., which also markets contractual plans for Boston Fund's shares. And shares of New York's \$34-million Blue Ridge Mutual Fund will be offered in 10- and 15-year contractual plans through Capital Program Corp. The contractual plans are still making big gains. In August, 33,441 investors signed up for them, compared with 20,278 in the same month a year ago.



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Specify TRANTEX, the illustrated 8-page booklet that outlines the many uses of Trantex, shows how it safeguards against corrosion above and below ground.

So tough that it resists a 22-calibre bullet fired at six feet, Johns-Manville Trantex pipe wrapping tape resists severe abrasive forces, prevents penetration by coarse backfill. Super-tough Trantex is ideal for protecting bends, welds and valves. It combats corrosion from all sources . . . resists water, air, micro-organisms, soil chemicals and attacks of stray electrical currents. Application is simple, by hand or machine. Because of a patented Johns-Manville bonding process, polyvinyl Trantex strips clean from the roll without delaminating, sticks tight to metal surfaces . . . provides lasting protection.

Put it to the test . . . super-tough Trantex, the tape for pipe wrapping.



JOHNS-MANVILLE

JOHNS-MANVILLE DUTCH BRAND DIVISION 7800 S. Woodlawn Avenue, Chicago 19, Illinois



Award-winning Holsum Baking fleet cuts operating costs to

## **GULF MAKES THINGS**

How cheaply can you run light trucks in heavy start-stop city traffic? Holsum Baking Company of New Orleans got operating costs down to 7.9¢ a mile, including gas, oil, parts and maintenance labor—holding an average of less than one mechanical delay per truck per year—thereby winning the Fleet Owner Annual Maintenance Efficiency Award.

Holsum's aim for its 100-truck fleet is more preventive

maintenance, less frequent overhauls. In this, Gulf fuels and lubricants play an important part. Frank Burk, Fleet Superintendent at Holsum Baking, puts it this way:

"We've tried a number of motor oils, but we've settled on Gulflube Motor Oil X.H.D. because it prevents harmful engine deposits. Our trucks roll 75,000 to 100,000 miles without major overhauls.

"High spark settings mean better mileage, and since





Though most Holsum Baking Company delivery trucks travel on crowded New Orleans streets, they average 11.2 miles per gallon, using Good Gulf gasoline exclusively.



Frank Burk, Holsum Fleet Superintendent, points out decal of his company's national Maintenance Efficiency Award to Gulf Sales Representative Al Pfister, who worked closely with Holsum in planning preventive maintenance program. On-the-job service like this is one of the benefits you get from Gulf.

7.9¢ a mile using Gulf fuels and lubricants...

## **RUN BETTER!**

Good Gulf gasoline burns so clean, we can set the spark at the highest advance without causing excessive carbon build-up."

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Plenty of proof that Gulf makes things run better!

If your company uses petroleum products in any way—as fuels or lubricants for company cars, trucks, or for plant machinery—it will pay you to see how Gulf makes things run better. Just call your nearest Gulf office.

**GULF OIL CORPORATION** 

Dept. DM, Gulf Building Pittsburgh 30, Pa.



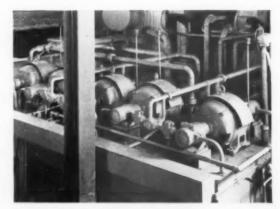


## Smashing ¾ ton autos into 5 ft. bales

In a scrap salvage yard in Chicago, this huge press smashes automobiles into five-foot bales. Here's how it works. Stripped autos are shoved into a 20-foot press box. At the flip of a switch three giant plungers jam down with a force of over 1000 tons. Result: A compact bale, five feet long and two feet deep. About 30 cars an hour are run through this giant baling press.

Powering this mammoth machine requires sturdy motors. They have to deliver an instantaneous surge of power to drive home the huge plungers. Five Century Electric 100 hp motors do the job. Result: Plenty of dependable power when and where it's needed.

Century Electric application engineers have helped develop thousands of motor drive systems like this. And they can design the right drive system for your equipment because Century Electric designs, manufactures and applies motors and nothing but motors . . . your assurance of getting more than just a motor.



Five 100 hp Century Electric motors provide dependable muscle power for the huge press.

### **CENTURY ELECTRIC COMPANY**

St. Louis 3, Missouri Offices and Stock Points in Principal Cities

Century 59.9

## PERSONAL BUSINESS

BUSINESS WEEK SEPT. 19, 1959



If you're one of the 40-million or so Americans who own, or plan to buy, savings bonds, you'll want to take a close look at Congress' new bill making it possible to raise the interest rates on Series E and H bonds.

What the new schedule does basically is to boost interest rates on both types of bonds if held to maturity to a 3.75% rate from 3.25%. The aim is to spur lagging sales of bonds and to cut down on redemptions by increasing interest on outstanding bonds by about ½%. Just how the new schedules work is a tricky, complicated business, and depends on whether you are holding bonds that haven't yet matured, whether your holdings have matured and have been extended, or whether you plan to buy new bonds.

But here is a quick rundown on the new program's main provisions:

E Bonds. All E bonds purchased after May 31, 1959, yield from 2.33% if cashed in at the one-year point to an over-all 3.75% if held to maturity. This has been done by shortening the maturity dates. For example: Previously, if you bought a \$1,000 E bond for \$750, it matured after eight years and 11 months, and yielded 3.25%. Now a new bond will mature in seven years and nine months, and will yield 3.75%.

The point to keep in mind is that the new interest rate structure is geared to push the yield on bonds you already hold—no matter how long they've been held or whether they've been extended or not—up by at least ½% for the remaining time to next maturity. To accomplish this the new program established a schedule of relatively high interest rates to be paid currently on the older issues. This means that if you hold a bond of the older series it becomes a high-yield security for the next few years—even though in no case will any of these increases up the yield from issue date to when they're redeemed to  $3\frac{3}{4}$ %.

Here is the approximate yield you will get from now on by holding bonds purchased before June 1, 1959, to next maturity.

	Revised range of yields for re- maining time to next maturity <sup>4</sup>
Date Purchased	
May, 1941—April, 1942	4.77% to 4.86%
May, 1942—May, 1949	3.50% to 3.57%
June, 1949-November, 1949	3.50% to 3.75%
December, 1949-April, 1952	4.68% 10 4.86%
May, 1952-January, 1957	3.78% to 4.39%
February, 1957-May, 1959	3.85% 10 3.89%
* Based on next date of increase in redemption v	alues.

H Bonds. Face value H bonds (\$500 to \$10,000 denominations with semi-annual interest payments made to holder) will have increased earnings, though, of course, the pattern is different. For example: you own a \$1,000 H bond issued July, 1952. For the next two years, your interest checks will range from \$17.50 to \$20.20, then remain constant at \$20.20. Before the new schedule, you would have simply received \$17 checks.

As with E bonds, the full  $\frac{1}{2}$ % improvement in earnings will be realized both on the new H bonds bought after May 31, this year, and on any H bonds you now hold, if held to maturity.

Improved Extension Terms. A 10-year extension period is provided for all E bonds issued from May, 1957, through May, 1959—and for all new Es. Formerly, any extension dates usually were announced a considerable time after purchase date. Interest rates on the extensions of these two bond groups haven't been announced.

## PERSONAL BUSINESS (Continued)

BUSINESS WEEK SEPT. 19, 1959

Note: Under the new bill, the Treasury now has authority to extend E bonds for more than 10 years, and expects to offer such further extensions before May, 1961.

As for H bonds, the Treasury now has authority to extend them.

How about exchanging bonds you now hold? A close study of the tables shows that the only case where it might pay to switch from old bonds to new ones is if you hold bonds purchased from 1946 to 1949 which are now in the first years of their extension period. The reason: Interest rates on the new bonds may catch up and pass earnings of that group in 4½ to 5 years. Of course, you have to consider your tax situation before making such an exchange.

Cash your E bonds and you'll have to pay the income tax on accumulated interest. Keep the bonds, and the tax money stays in your investment working for you. And if you hold them until retirement, the interest may be taxable at a lower rate. This, of course, assumes you've already weighed the advantages of savings bonds compared to other investments.

There's no tax advantage in switching out of H bonds as presumably the tax has already been paid yearly.

A private charter cruise in the Caribbean is an off-beat—and extremely relaxing—way to spend a winter vacation. This serene mode of travel is readily available at such ports of call as Miami, Nassau, and St. Thomas.

To get an idea of what you can find at various ocean-island locales in the West Indies, take the area lying to the east and southeast of Puerto Rico. In two weeks' time, you and your family can sail at a comfortable pace through most of the American and British Virgin Islands, boat some big game fish if you want to expend the energy, and swim and skindive in some of the world's bluest waters.

And if you can tack on another week or two, you can take in such out-of-the-way spots as the Leeward and Windward Islands—places like St. Kitts, Guadeloupe, Martinique, and Grenada.

It

In this section of the Caribbean, the biggest collection of charter boats is found at Yacht Haven in St. Thomas. Ranging from 33 ft. to 77 ft., these craft include both power cruisers and sailing vessels that sleep four to eight passengers, plus pilot, cook, and one or two crewmen.

Rates run from \$500 to \$1,000 a week; usually there's an added charge of \$5 a day per person to cover food and extras.

Air age department: The first jet liner providing regular nonstop service between New York and London will go into action Nov. 23. Trans World Airlines (TWA) will use the "intercontinental" version of the Boeing 707, a slightly larger and faster craft than the type now in service (BW—Nov.8'58,p121). By eliminating fuel stops and cruising at 605 instead of 600 mph., the 707-intercontinental will cut the eastbound flight to six hours and 25 minutes, a half hour less than present schedules. Westbound drops from about 8 hr. to 7 hr. A similar service—also TWA—will connect New York, Paris, and Rome, beginning Dec. 3.

Meantime, Pan American, which began a trans-Pacific Boeing 707 jet service connecting Los Angeles and San Francisco with Honolulu and Tokyo, on Sept. 5, adds Portland and Seattle to its jet routes, starting Oct. 15.

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Owner: Harry C. Nail, Atherton, Calif.; architech David Thorne, Berkeley; consulting engineer, Carl Replogle, Piedmont contractor: John C. Davenport; steelwork; San Jose Steel Company

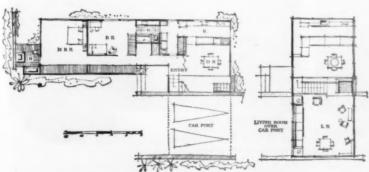
## It's Completely Framed in Steel

Two big bents, shop-fabricated, carry the living room over the carport. Smaller bents frame the ground-level wing.

This handsome residence illustrates these advantages of steel framing for light-occupancy structures;

- 1. Competitive Cost—Erected cost was \$2200 to frame 2000 sq ft.
- Fast Construction—The bents were erected in two hours.
- 3. Imaginative Design—The architect used steel's strength to achieve both functional and esthetic objectives. Since the bents carry the load, interior and exterior walls are non-load-bearing. The plan is free of columns. The house is brightened with a band of clerestory windows completely around the perimeter.
- Strength and Permanence—Here is a home with "the strength of a skyscraper," designed to resist seismic forces and fire, and immune to termite damage.

Structural steel is readily available from local steel fabricators or steel service centers,



For literature describing lightoccupancy structures designed with steel, write to Publications Department, Bethlehem Steel Company, Bethlehem, Pa.



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# WESTINGHOUSE ELEVATOR "30-MINUTE

## WESTINGHOUSE INVITES YOU TO JUDGE BOTH THE EFFICIENCY AND BENEFITS OF MODERN OPERATORLESS ELEVATORS

Because elevators can be the "showcase" of fine building service, Westinghouse invites you to see this convincing 30-minute demonstration. The elevator system for a newly planned building—or an existing one—is a key purchase . . . a serious investment. As such, it deserves the personal attention and approval of executives concerned with the reputation of their

building now—and in future years.

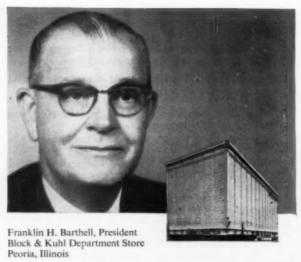
Make arrangements to investigate before you invest—see this behind-the-scenes demonstration by calling the Westinghouse Elevator Division Sales Office in your city—or write on your letterhead to: R. H. Wagner, General Manager, Westinghouse Elevator Division, 150 Pacific Avenue, Jersey City 4, New Jersey.

WESTINGHOUSE ELEVATORS AND ELECTRIC STAIRWAYS

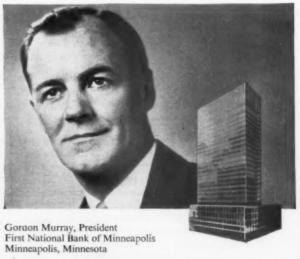
## YOU CAN BE SURE ... IF IT'S Westinghouse

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Watch Westinghouse Lucille Ball-Desi Arnaz Shows CBS-TV Fridays



As one of the first department stores in the Midwest to install operatorless elevators, it was necessary that we select equipment that would instill the greatest degree of confidence and provide the utmost in safety for our customers. After thorough investigation we selected Westinghouse. More than two years of successful performance and public acceptance of these elevators have proven that our selection was the right one.



When we decided to convert our elevator system at the First National Soo Line Building to automatic in 1953, we made a thorough investigation of vertical transportation systems prior to the contract award. On the basis of that investigation, we chose Westinghouse for our modernization program. At the present time we are installing fourteen (14) Westinghouse elevators and three (3) stairways in our new First National Bank Building which will be ready for occupancy early in 1960.

# PRE-INVESTMENT EYE-OPENER"



Ross Beatty, General Manager
McCormick Estates, Roanoke Building
11 South LaSalle Street, Chicago, Illinois

66 Our technical staff carefully studied the bids we received for elevator modernization at the Roanoke Building, and toured several automatic elevator installations prior to making a recommendation to us. This research and the analysis of the bids led us to a decision for Westinghouse Selectomatic with Automatic Traffic Pattern and Traffic Sentinel features which was felt would provide the flexibility required for the unprecedented changing traffic conditions in our building. The installation is now complete, and we are quite pleased with our decision.



In order to maintain our address of distinction, we selected Westinghouse Selectomatic elevators for our modernization program. After a scientific analysis, which included the 'Eye-Opener' demonstration, we decided that Westinghouse Automatic Traffic Pattern, Traffic Sentinel and Synchro Glide features would provide us with the finest operatorless elevators.



The complete remodeling of the thirty-year-old HOTEL ROOSEVELT of Cedar Rapids, Iowa, included as one of the major features the installation of a Westinghouse Selectomatic-Automatic-Operatorless Elevator System with Automatic Traffic Pattern Control. The Westinghouse '30-Minute Pre-Investment Eye-Opener' convinced us that this was the best system and, after 15 months of operation, we find that our confidence was very well placed.



Harold Cummings, President Minnesota Mutual Insurance Company 345 Cedar Avenue, St. Paul, Minnesota

When we were planning our new Home Office on Victory Square, St. Paul, our Building Committee examined several automatic elevator installations and consulted many users before deciding on Westinghouse. Westinghouse was chosen because the Building Committee found it the most completely electronic and modern system then available. The elevators do a remarkable job of automatic adjustment to fluctuations in traffic flow.

#### **PRODUCTION**

# Big Mirror Pans Out for Corning



DEC. '58 Mold for the big mirror is completed as workmen place the last of the cores that give the back of the mirror its weight-saving honeycomb shape.

Orders for optical glass come in small quantities, in great variety. One customer may ask for a dozen mirror blanks, another for 50 chunks of glass for grinding into lenses, still another for a couple of hundred prism blanks for special instruments.

Special orders like these, plus a steadier flow of blanks for eyeglasses and sunglasses, add up to an industry volume of around \$15-million a year, and they are the bread and butter of the optical sales department of Corning Glass Works. Once every few years, however, an order comes through that poses a challenging new problem, and none of these creates tenser drama than an order for a big telescope mirror like the one in the pictures.

The climax comes when the mold is chipped and sandblasted away from the big glass casting after months of slow cooling. Until that moment when the glass can be inspected, no one knows if the casting has been successful or if months of care have been wasted on a reject.

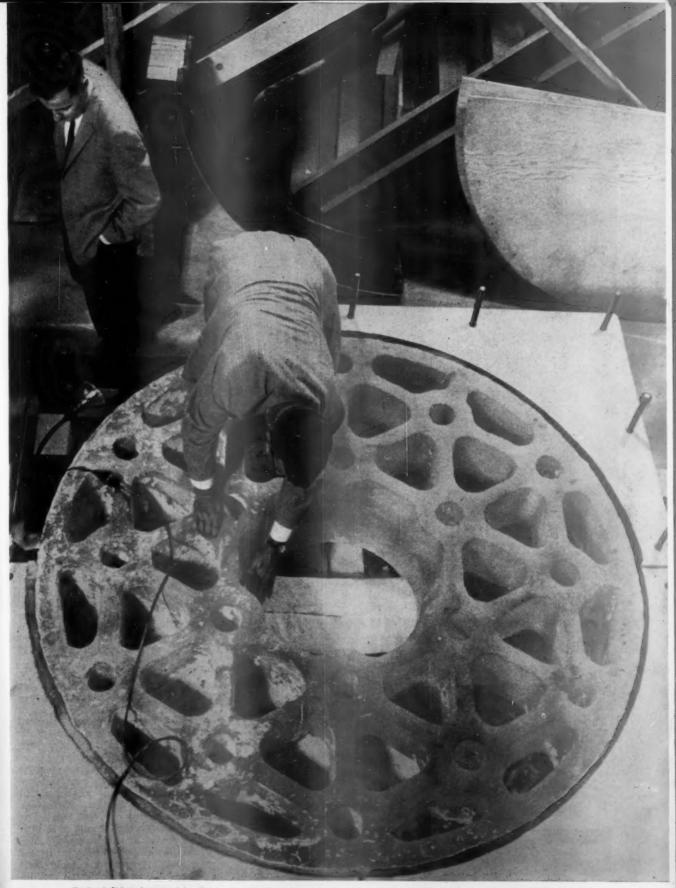
• Bake Seven Months-Corning's latest



JAN. '59 Raw glass, looking like ice cakes, goes into mold after being weighed and inspected for purity. Then the mold and its load of raw glass will go into electric furnace.

AUG. '59 Mirror blank, still in its mold, comes out of the furnace after seven months of slow cooling, regulated to avoid setting up internal stresses in the 84-in. disk.





SEPT. '59 Back of disk is inspected by Dr. A. B. Meinel, director of the Assn. of Universities for Research in Astronomy, Inc., which will run Kitt Peak Observatory.



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BURNHAM VAN SERVICE, INC., COLUMBUS, GA. FORD VAN LINES, LINCOLN, NEB.

telescope mirror blank, 84-in. diameter, is the largest cast since Corning produced the 200-in. disk for Mt. Palomar in 1937. It is being prepared for shipment to Arizona, where it will be ground and then mounted in the new observatory at Kitt Peak.

Making optical mirrors is quite different from most optical glass manufacture. A mirror must have great structural strength, great accuracy in dimensions, and freedom from even the tiniest surface flaws. But, since light bounces off its polished and aluminized face, it doesn't require the internal optical qualities of a lens or a prism.

That's why Corning makes its bigger mirror blanks at its Corning (N. Y.) plant, which is geared to work with low-expansion borosilicate glass, rather than at its Harrodsburg (Ky.) optical glass works. The Kentucky plant, completed in 1952, turns out hundreds of varieties of glass, mostly for eyeglasses, in continuous melting furnaces that Corning developed during and after World War II.

• Hard to Melt-Glass for telescope mirrors must hold its shape. If it were vulnerable to expansion and contraction with temperature changes, its shape would change, causing the telescope to go out of focus. At a heat of 2700C, borosilicate glass liquefies only to a thick, viscous blob that flows like cold molasses. If it is heated more, it would flow a little more easily, but it would pick up too many impurities from the melting furnace, the mold, and the crucibles.

The 84-in. disk was made of the same material and in the same building as its 200-in. predecessor. But Corning's production men used a different technique called slump casting.

The 200-in. disk was cast by pouring from ladles into the mold—about 100 ladlesful for the 42,000 lb. of glass. The ladling took only a day, but the cooling process took months—and the first casting proved an expensive failure when the mold was finally opened.

• New Method—For the 84-in. disk,

• New Method—For the 84-in. disk, Corning loaded the mold with big chunks of raw glass called collet, then heated the batch—mold and all—in an electric furnace. The glass, inspected for purity before it is melted, slowly forms a pool in the mold, with little danger of picking up impurities.

The cooling of the glass must be very slow, so as not to create internal stresses, which develop when one part solidifies before another. The 84-in. disk was melted on New Year's Day and allowed to cool at rates of as little as 1C per day at some stages. On Aug. 1, the furnace was opened, but it took a month to remove the mold cores and firebrick surrounding the disk before Corning could be sure it had a perfect cast. END





CONTROL ROOM of one unit of the refinery, where skilled Virginians keep watch on processes. Plant uses 142 miles of piping, electricity at voltages as high as 13,800.



3000-FOOT PIER can accommodate simultaneously a 700-ft. tanker, a 550-ft. tanker and two 250-ft. barges. Important to Amoco, also, are "un-surpassed Hampton Roads ports."

Following are a few other outstanding industries that have located in VIRGINIA

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59

- General Electric Company
- Allied Chemical Corporation
- A⋅S⋅R Products Corporation
- The Dow Chemical Company Monroe Calculating
- Machine Company, Inc. Reynolds Metals Company

Let Them Tell You What Prompted Their Decisions To Locate Here.

## American Oil Needed Water, Electricity, Anchorage for found them all

For its new \$35,000,000 refinery, American Oil Company needed water . . . 73,000,000 gallons a day . . . plus electricity in tremendous quantities. They needed a deep-water anchorage where tankers and

barges could unload as much as 600,000 gallons of crude oil an hour via 24-inch pipe. And they needed top rail and road transportation facilities.

#### They chose Virginia

More than 40 sites in a dozen states were thoroughly studied before choosing Yorktown, Virginia. Here the York River gives more than enough water to meet the refinery's big thirst and provides anchorage for the largest tankers. An adjacent power plant built by Virginia Electric and Power Company not only provides ample electricity but also burns 600 tons of coke a day produced by the refinery. Rail and road facilities are excellent.

#### Extra dividends, too

In addition to unique geographic In addition to unique geographic advantages, Amoco received extra dividends by locating in Virginia. Local manpower has proved unusually productive and quick to learn new skills. Transferred personnel are enthusiastic over the good living the social recreational and living, the social, recreational and cultural advantages of Virginia. And top officials welcome the favorable business climate . . . the state's strong leadership, lack of public debt, good economic and political attitudes. In the words of one Amoco official, "Nowhere did we find human resources to the degree that we found them in Virginia."

If you're planning a new plant, let us tell you why so many compa-nies are locating in Virginia. Phone, wire, write . . .

C. M. Nicholson, Jr., Commissioner DIVISION OF INDUSTRIAL DEVELOPMENT

Virginia Dept. of Conservation and Economic Development

State Office Building, Richmond, Va. Telephone: Milton 4-4111 Ext. 2255

You, too, can find these ... and many other great competitive advantages in VIRGINIA

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#### A half-scale version of the 1910

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## RUNS AND HANDLES... LIKE THE OLD "TIN-LIZZIE"!

This little 68 inch car is sturdily built. It has mechanical brakes... red wooden spoked wheels...brass colored headlamps. Speeds up to

15 miles per hour. Thrills galore for the whole

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McDonough Power EQUIPMENT, INC. McDonough, Georgia, U. S. A.

Makers of famous Snappin' Turtle mowers

# Show, Tell, Sell, or Train WITH NEW PORTABLE VIEWLEX "SALESTALK"!

A complete Sight-Sound Unit in an Attache Case!
 Lowest Cost Presentation and Training Unit of All!



New Viewlex "Salestalk" provides lightest weight lowest cost FULLY AUTOMATED SELLING —with the proven power of daylight-projection of filmstrips and/or slides, combined with 4 speed hi-fi record playback that sets up in seconds on a desktop.

Complete Unit only \$9950

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FREE BOOK techniques	LET! Describes for new higher D SHOWMANS	"Salestalk" profits with
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## Purging Smoke From Jet Trails

New fuel under test by Texaco and other oil companies promises to sweep away most of the cinders left behind by jet planes on take-off with their present diet.

Oil companies, led by Texaco, have developed a new fuel that comes close to eliminating the pall of smoke left behind by a jet plane after take-off.

behind by a jet plane after take-off.

The smoke is created by ordinary jet fuel, a so-called wide-cut distillate in the kerosene range, when water is injected into the combustion chamber during take-offs to add thrust. The water adds thrust, all right, but it also produces a black smokescreen of small cinders that strains the engines—and pelts other planes on the field.

The new fuels, which would sell at a premium price of 2¢ per gal., don't smoke or heat up the engine so much, Texaco scientists sav.

• Unwanted Glow—In jets, smoke and wear hinge on a quality called luminosity. The more a fuel glows when it burns, the more it heats an engine and the more it smokes. A jet engine needs just the hot gas, not the glow.

As far as fuel researchers know, glow is caused by the way a hydrocarbon fuel molecule breaks down when it burns. If it separates into atom-sized fragments, there's little glow; if it breaks into fairly large molecular bits, the glow is more pronounced. Apparently, a jet fuel composed of a narrower cut of petroleum burns with less glow but more heat.

Low-glow fuels are produced by removing as many aromatic hydrocarbons as possible, either in the refining process or by filtering the product through molecular sieves. If the combination of higher efficiency, less maintenance, and less smoke appeals strongly enough to the airlines to justify the 2¢ per gal. premium, there may well be a scramble in the oil industry to produce the purer fuels.

So far, Texaco has supplied about 1.5-million gal. of low-luminosity fuel



### The Army's Slightly Airborne Troop Carrier

Invasion landings in World War II made use of the amphibious vehicles known at Ducks (DUKW in Army lingo), which lumbered onto the beaches at a reliable 6 mph. Now comes the Flying Duck (picture), an amphibious truck that can fly 50 mph. on hydrofoils (underwater wings) and then deliver its cargo high and dry on a beach.

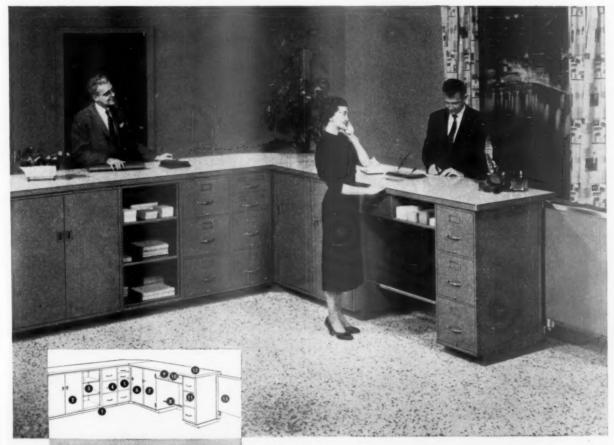
The hybrid craft was developed for

Army Ordnance by Lycoming Div. of Avco Corp. and Miami Shipbuilding Corp. of Miami, Fla.

A Lycoming T-53 aircraft gas turbine delivers 860 hp. to drive the Flying Duck. The hull has retractable hydrofoils, two forward and one built into the propeller shaft housing. With the foils down, the craft begins to lift at about 5 mph. and is up all the way at 13 mph.

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## Ever Meet a Census Taker?

He'll hit East Boston airport at about 8:30 A.M., hop a cab, and head for a certain industrial area in Hyde Park. He has it marked off on that street map he's holding.

What's he up to? Good question. This is Hugh Britton, who directs McGraw-Hill Census of Manufactures. At the moment, he's about to embark on a "block test." He's going to check every plant in that circled area. He'll make sure each one is right where it's supposed to be... not moved, sold or inactive. He'll match up his own meticulous records for company size, worth, key personnel, every single product. And more often than not, in other key cities, you'll find a McGraw-Hill Research Department field investigator making similar "block tests," auditing these figures.

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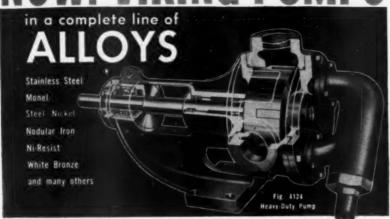
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for ground testing. This month, it hopes, an operational test will begin in cooperation with American Airlines. Pan American World Airways is also interested in the new fuel, because of the way it promises more economy and less maintenance, but PAA engineers point out that even an increase of 1¢ per gal. in fuel cost would add \$3-million a year to their fuel bill. In addition, Pan Am is not so concerned about smoke as some airlines; the problem is severe only on water injection take-offs with the J-57 engine, and before long all Pan Am jets will be powered with the larger J-75's, which don't need the water boost.

• Luminosity Scale—The amount of glow in a jet fuel can be gauged by luminosity ratings developed by the Federal Aviation Agency's Committee on Aircraft Fuels. The ratings are something like octane ratings of gasoline for piston engines: The less a fuel glows when it burns, the higher its luminosity number—just as the less knocking a gasoline produces, the higher its octane number.

Tentatively, the FAA committee has set 50 as a minimum luminosity rating for jet fuel. Much of the jet fuel now in use rates in the mid-40s, but the new fuels developed by Texaco and

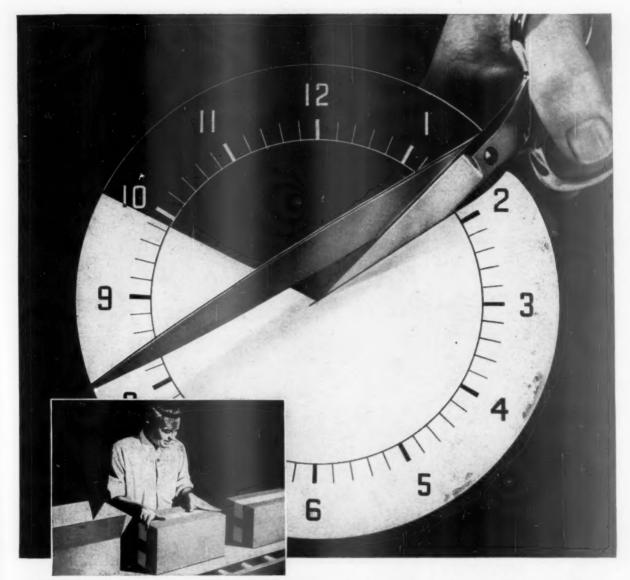
Esso score over 100.

#### PRODUCTION BRIEFS

A land-bound ship has been built on a hilltop by Bell Telephone Laboratories to study new techniques of laying cable. The latest cables for transoceanic telephones must have 3-ft.-long metal-encased amplifiers spaced every 38 miles. Bell's dry-land mockup of a cable ship's deck and tanks helps engineers figure out how to handle the new and less flexible cable.

A flight simulator that duplicates the motions, sounds, and vibrations of a helicopter will be used to test new controls and instruments by Bell Helicopter Corp. The idea is to find out in advance how pilots will react to new instrument systems and display panels. Bell is coordinator of the Army-Navy Instrumentation Program (ANIP) to redesign electronic flying equipment to fit the pilot's way of doing things instead of making the pilot conform to the equipment.

A new polyurethane mix and portable sprayers cut the cost of thermal insulation by doing away with much of the installation labor. Wyandotte (Mich.) Chemical Corp. says its foam, put on with a spraying unit made by Toledo's DeVilbiss Co., will apply layers of insulation at 20 board feet per minute.



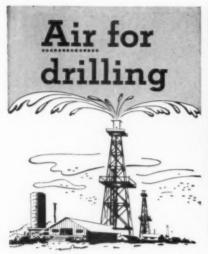
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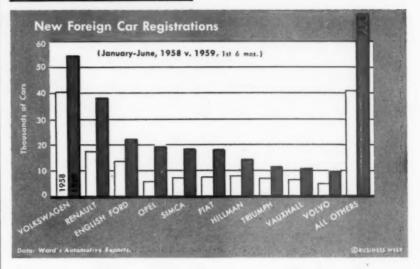
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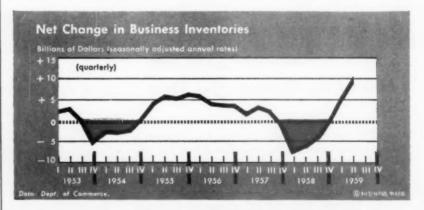
## More Foreign Cars on Road

The Big Three American auto makers are taking direct aim at the success of imported autos with their new "compact" lines this fall. New foreign car registrations during the first six months of 1959 rose more than 81% over the same period last year—289,443 compared with 159,688. The foreign cars captured 9.4% of total new car registrations against 6.7% a year ago.

Ironically, the Big Three will be competing with their own foreign-made products. Three of the top 10 among foreign cars—English Ford, Opel, Vaux-

hall—as well as the Taunus and Metropolitan are assembled overseas by American manufacturers. In addition, Chrysler owns a large interest in Simca and imports its cars.

Impressive year-to-year sales gains were registered among the top 10. Opel, up 234% over the first six months of last year; Simea, up 160%; Fiat, up 136% and Renault, up 117%. Sweden's Volvo was the only newcomer to the list of the top 10 during the first half of 1959. It displaced the MG, which held sixth place last year.



## Stock Building Hits Near-Record

Inventory buildup, one of the most important factors in the business recovery, rose to its third-highest level on record during the second quarter of 1959. It was topped only by two quarters during the Korean War period when changes in business inventories mounted to a seasonally adjusted annual rate of more than \$15-billion.

Although the impending steel strike added considerable impetus to this rapid buildup (durable goods producers registered the biggest share of the increase), other factors came into play. Hardgoods manufacturers had cut stocks back heavily last year and thus were forced to build up sharply when sales picked up in both consumer durables

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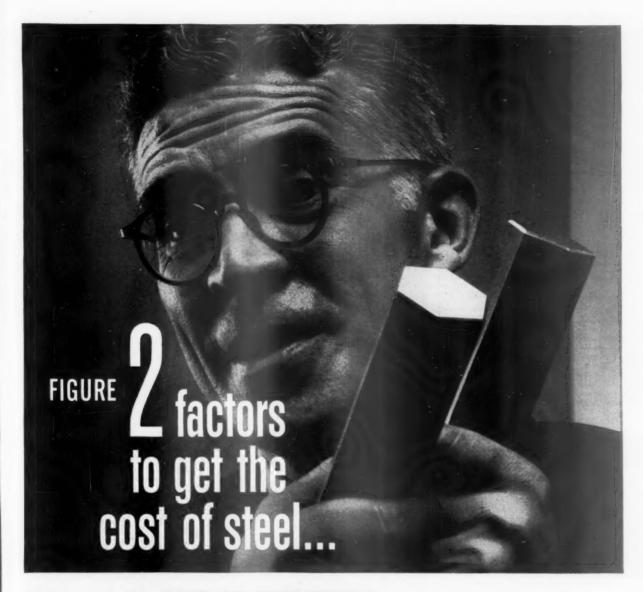
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Space	
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Other costs:	
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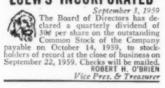
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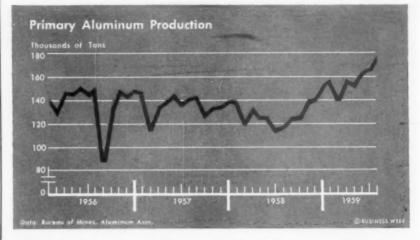
## UNMATCHED

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and machinery. The volume of sales of most durables has kept well ahead of the additions to stocks (partly because of rush shipments of steel and other metal products). In June of this year, the over-all manufacturing inven-

tory-sales ratio was lower than at any time in the past three years. And new orders for durable goods were at the highest level since August, 1956.

Another round of inventory building seems certain following a steel truce.

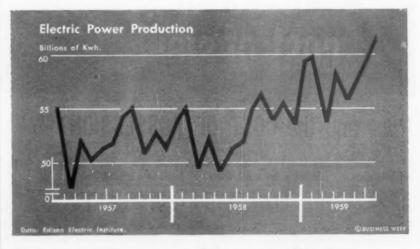


## Aluminum Moves to New Peak

The continued strong demand for primary aluminum, with additional pressure from the steel strike, pushed production to a new peak for the fifth time this year. Producers throughout the industry reactivated idle facilities as July's output reached a record 179,194 short tons.

Worries over steel supplies have en-

couraged many user industries to consider aluminum and other nonferrous metals where possible. Undoubtedly some will be converted permanently. But aluminum applications had been mounting rapidly before the steel strike and all signs point to continued expansion, particularly in structural uses, automobiles, and packaging.



## Power Output Keeps Rising

Heavy use of air conditioning and fans during hot and muggy July boosted electric power production to a new peak of 61.7-billion kwhr. This was an increase of more than 12% over the same month last year. Preliminary data for August points to even higher production, in spite of the steel strike and the early new model changeovers in autos. Power generated during the first seven months of 1959 topped the like period last year by 11.4%. With many industrial plants on overtime and nearcapacity production schedules, industrial and commercial customers used almost 13% more power. Residential consumption mounted more than 8% over the first seven months of last year.

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## Mr. Khrushchev Comes to Town

Premier Khrushchev is stirring extraordinary interest among Americans—far more than any other foreign leader who has visited this country in many years. The Russians' success last weekend in sending the first manmade space vehicle to the moon added greatly to the sense of drama and importance that surrounds the Premier's visit.

In inviting the Soviet leader, Pres. Eisenhower had a strictly limited goal. He did not expect to settle the issues that divide Americans and Russians. He hoped simply for some improvement in the atmosphere of East-West relations.

Hanging onto Khrushchev's words to catch some clue to his basic purposes is not likely to be rewarding. The Premier restated his views only last week in an article in Foreign Affairs. He said again that he believed Communism would ultimately prevail throughout the world and he restated his position on Berlin, arms control, and trade. While he may make some startling gestures on his tour of the U. S.—the Premier has proved he is a master of such tours in Britain and other countries—he is not likely to change his basic convictions on specific issues.

It will be the atmosphere the Premier establishes as he goes along—right up to the final days with the President at Camp David—that will be important. If the visit should bring an improvement in relations, said the President in his address to the nation last week, the issues between the two countries might be attacked with "renewed hope." A better atmosphere would let the President know whether a series of summit talks would have any hope of leading to an East-West accommodation.

## Split Vote

Congress closed a long and productive session this week—with the President in firm control. Democrats, who had the largest majorities in 20 years and who came to town talking of their "obligation to lead," went home subdued.

After all the oratory that came with last fall's landslide victory for the Democrats, this was a highly surprising conclusion for the 1959 session. In the longer view, it upsets the age-old feeling in this country that a government divided between the two parties is almost automatically hobbled. For this Congress pushed through statehood for Hawaii and the first labor reform act since Taft-Hartley among its accomplishments.

This session has proved that, with responsible leaders in Congress and the White House, a divided government can be effective.

Beyond this, it may strengthen the growing trend among voters to ignore old party loyalties and split their votes. This leads to what you might call "bipartisan government." We had one example of it under Pres. Truman when the Republicans captured Congress for two years. We've had five years of it under Pres. Eisenhower—but only in the 1959 session did it seem that divided government worked.

This session again demonstrated the great power of the Presidency—the President used the veto nine times, was overridden only once. With the White House behind them, Republican leaders in Congress were effective in shaping much of the legislation.

It may be that future Presidents will have to use their powers in much the same way in order to lead Congress—if the voters continue to split their votes.

## Job Well Done

Officially, the Senate Select Committee on Improper Activities in the Labor or Management Field will continue in business until the end of January. However, the committee headed by Sen. John L. McClellan (D-Ark.) has now wound up its scheduled work. Its purpose "has been fruitfully realized."

The resignation of Robert F. Kennedy as chief counsel is a first step toward the dissolution of the committee. All that is left now is the task of writing a strong final report.

The committee has accomplished much of what it set out to do. It has had failures: James R. Hoffa continues arrogantly defiant of efforts to purge the Teamsters of corrupt influences. But the committee's successes far more than offset this.

During its three years, the McClellan committee was largely responsible for marked improvements in management-labor conditions. It brought out into the open the facts of deplorable conditions that had existed for years—with nobody willing or able to do anything to rectify them.

The committee's disclosures shocked the nation. They prodded organized labor into forceful action to rid itself of racketeers and crooks and to set ethical standards for the conduct of union affairs. They brought about the enactment of a labor reform law that should lead to more honesty and responsibility in unions.

Most of all, the committee's disclosures brought about sharp changes in public—and political—thinking about unions. The possibilities of misused power and democratic abuses had never been brought into such sharp focus. The need for an exercise of public supervision had never been shown so clearly.

The work of the McClellan committee will have this lasting result: The internal affairs of unions have been made a matter of public concern and responsibility; they no longer will be ignored.

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